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CONSUMERS' RESEARCH Bulletin

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Off the Editor's Chest

DON'T blame the armed forces for all the shortages of food that are now troubling consumers, on the home front. The military are not always able to supply their own needs for certain commodities required for feeding the men in training. Quite understandably not too much information is available on the subject, but it is fairly common knowledge that on many occasions the army has had to go into the local wholesale and retail markets for meat because of some delay in arrival of ordered supplies. When the butter shortage began to be felt late last year, the Navy was reported as having difficulty in obtaining bids from suppliers on the West Coast, while both the Army and the Navy were able to fill only 25 percent of an order for 35,000 dozen eggs. As we reported last month, the Army has cut its coffee ration to 40 cups per man per month.

The butter situation was not helped by the fact that the Agricultural Marketing Administration in charge of purchases for Lend-Lease commitments was trying to buy some 10 million pounds of butter a month for shipment to Russia alone and finally had to obtain permission to pay more than the domestic "ceiling-price" in order to obtain butter for Lend-Lease purposes. It appears that the Russians can't use oleomargarine. Scattered reports from here and there have been received of cases where excesses of butter and other essential foodstuffs were supplied for school lunches under the surplus commodity marketing plan, excess supplies so far beyond actual needs that they spoiled for lack of consumers to use them, but it is believed that the work of the Surplus Foods Administration is now destined for early discontinuance by reason of its sheer incongruity with the present needs of the country and of consumers.

Canned goods and dried foods are presently to be rationed because of inadequate stocks, due to the cutting off of our tin supply by Japan, shortage of help on the farms, extremely heavy requirements of the armed forces and of the Lend-Lease administration, and eagerness of consumers to maintain their normal stocks of canned foods, at a time when grocers are receiving below-normal shipments.

When Consumers' Research suggested last spring that consumers would be wise to look into the question of raising and canning as much of their winter's food supply as possible, and should try to locate farmers who would be able to furnish them with meat, eggs, and poultry, a fair number of our readers no doubt thought that we were being unduly pessimistic. As one exceptionally well-informed economist put it, "With the tremendous capacity that this country has for raising food and with the record of surplus crops year after year, I'm going to take my chances on letting people raise food that know how and devote my energies to other things which I can do better." Since this particular sub-

(Continued on page 23)

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Symbols used to indicate sources of data and bases of ratings: A—recommended on basis of quality; AA—regarded as worthy of highest recommendation; B—intermediate with respect to quality; C—not recommended on basis of quality; cr—information from Consumers' Research's own tests or investigations; **1, 2, 3**—relative prices, 1 being low, 3 high. Note that price and quality are completely differentiated in CR's listings; **a quality judgment is independent of price;** 42, 43—year in which test was made or information obtained or organized by the staff of Consumers' Research.

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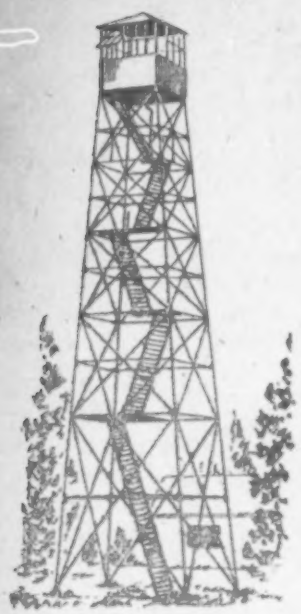


The Consumers' Observation Post

OWNERS OF TIRES REQUISITIONED by the British Ministry of Supply have the option of appealing the assessed valuation before the tires are requisitioned if they are dissatisfied with the official valuation. This democratic and common-sense procedure is recommended to officials in Washington for their earnest consideration. Had owners of used tires been afforded this opportunity in this country, many of them who received 20¢ apiece for tires they felt were good for at least as many more miles as a $10 "wartime recap" would have been afforded at least an outlet for their feelings.

* * *

CONSUMERS who are in urgent need of a new electric range or some other restricted appliance can cut through the maze of red tape preliminary to paying their money down by simply writing a note on the following order, according to Electrical Merchandising:

"I hereby certify that the purchase of ..... is necessary as a replacement and that repair of the unit being replaced is impracticable. I further specify:

1. Name of unit being removed .....
2. Name of part or parts that have failed .....
3. Give age, model, make, size and serial number (where available) of such unit or parts .....
4. Give model make, size and serial number (where available) of replacing unit .....

User's name ..... Installer's signature ..... Date ....."

It is important, where a similar appliance has not been used before, to find out whether wiring facilities are available for a proper hookup, particularly in the case of electric ranges.

* * *

REDUCTION IN THE NUMBER OF PAGES carried by your favorite magazine or newspaper has been effected by a new government "directive." The ostensible purpose is to divide up available supplies fairly in view of an asserted paper shortage to come. The grapevine reports give as a reason for this reduction an attempt of power-hungry bureaucrats to control the press which, in their opinion, is given too much to voicing people's complaints and dissatisfactions with the way wartime expenditures, restrictions and rationing are being handled.

* * *

MATCHES require the use of vital materials in their manufacture, and we normally use more than 500 billion a year, according to the Office of War Information. Smokers are urged to borrow a light from a neighbor wherever possible and to refrain from striking a match when looking for a light switch or a key hole. The industry has already put through a voluntary conservation plan, and consumers are urged to do likewise.

* * *

SHOPPING, according to housewives' opinions, now takes twice as long as it did before the war. If one adds to that the time spent in registering for rationing books, learning the complicated regulations that apply, and explaining things to ration boards, the amount of lost time is much greater. In many places it takes weeks to have electrical appliances, radios, refrigerators, vacuum cleaners, clocks, watches, and similar items repaired, and in some districts it is even difficult to find anyone who wants to do the work at all. The conclusion to be drawn from this, for the average consumer, is that if he wants something done or repaired in the future, now is a good time to arrange to have it done, so that the work will be ready when he needs it.

BICYCLE TIRES give considerably more mileage than automobile tires recapped with reclaimed rubber, by a factor of approximately 14-1/2 to 1, according to tests made by the National Bureau of Standards and reported in a trade journal. This would point to the importance of keeping the Nation's bicycles rolling as an efficient and economical means of transportation, and to the importance of relaxing speedily and greatly, the present stringent limitations on manufacture and sale of new bicycles.

* * *

FLOUR, particularly unbleached-reinforced (so-called "enriched") flour, has been difficult to obtain in certain parts of the country during the past two months. It is fairly common knowledge that there is an abundance of wheat, and the shortage of flour is one of those things which is beginning to make consumers realize that there is something deeply and fundamentally wrong with the whole ideology back of the working out of what economists are pleased to call "planned economy." The shortage in flour appears to have been due to a price squeeze in which millers were caught between fixed "ceiling" prices on flour and the price of wheat. The price of wheat is supported (upward) by the government, which holds large stocks of wheat that cannot be sold below parity. Parity was calculated in November at around $1.37 a bushel, whereas the economic or market price on the Chicago Board of Trade for approximately the same period was around $1.32.

* * *

ROASTING MEATS at somewhat lower temperatures than have been accepted as conventional in past times is now advocated widely in the technical press. With lower-temperature roasting, "shrinkage," the loss of fats and moisture due to evaporation, is much decreased, it appears. In a recent study at the University of Texas, a loss of 29% in a large 24-pound roast was reduced to 20% by lowering the oven temperature from 450°F to 250°F. While the low-temperature cooking is, of course, slower, it is said not appreciably to increase the cost for fuel, and it is reported that the meat is more palatable.

* * *

THEATER, RESTAURANT, AND NIGHT CLUB BUSINESS is bigger than ever, according to a note in one of the women's fashion-and-dress magazines, and the magazine suggests in a somewhat humorous vein that the huge business is a statistical anomaly from which economists may conclude: "(1) that if you reduce people's incomes, they spend more and (2) if you ration consumer goods, they consume more."

* * *

THE MOST EFFICIENT USE OF FABRIC for cold-weather clothing is achieved by lining light, wind-resistant jackets with a thin woolen fabric, according to recent research. Trousers also may be lined. The consumer who must be out of doors a great deal in severe weather, and who will have more and more difficulty in keeping himself clothed during the war period with heavy, warm clothing, might do well to experiment with the possibilities of wearing several thinner garments, or a thinner wind-proof garment over a wool coat and trousers of the ordinary sort worn with long underwear. Another possibility is to interline with wind-proof material garments already purchased. Preferably, of course, the thinner wind-proof material should be on the outside and the thicker wool fabric on the inside.

* * *

BREAD may soon appear in New York State with its formula printed on the wrapper. One of the outstanding schools of nutrition is pushing the idea of open-formula breads, pointing out that feeds for farm animals have customarily been sold with the clear and open statement of constituents for some time. Consumers, as well as farmers who buy animal feeds, should know what they are eating, particularly these days when it is important that every bit of food eaten contribute its utmost to good nutrition and health.

* * *

BLANKETS made from good new wool blended with a poor quality new wool gave better service than blankets containing good quality new wool and mohair, and both kinds gave better service than a blanket which contained good quality new wool blended with reprocessed wool, according to studies made by the U. S. Department of Agriculture. Although the differences were small, they confirmed the belief grounded in the experience of millions of consumers that fabrics made of new wool are on the whole likely to give the best service.

[The continuation of this section is on page 29]

Wartime Substitute Anti-freezes

WITH A KNOWLEDGE of the fact that alcohol and ethylene glycol would be scarce or difficult to buy at all for use as automobile anti-freeze solutions, it was easy to predict that new anti-freeze mixtures of unknown composition or old ones long since discarded as unsatisfactory would appear on the market. It was also reasonably certain that many of the new anti-freeze mixtures would contain ingredients harmful to the engine and metal parts with which they might come in contact.

In replying to the many requests of subscribers for information on new or revived products of this type, CR has repeated its advice against the purchase of any anti-freeze of unknown composition, since the substances suitable for this purpose that are safe and relatively harmless to the car are well known, and it was considered most unlikely that any new or different product (or an old one revived) would of a certainty be free from danger of damage to the engine and associated parts. The tests just conducted under CR's direction bespeak the soundness of this advice—which is good advice in general with respect to any sort of product that carries the potentiality of damage to a valuable appliance or equipment.

Obviously, the manufacturer who has a good product and is sure of it to the extent of indemnifying users against loss or damage will have no difficulty in providing duly signed and authenticated proof of his claims in the form of certificates or experts' reports from a competent technical or scientific authority or laboratory.

As one man pointed out, the situation is most serious, and the sale of such solutions harmful to the car is a form of racketeering or verges closely upon it; it is certain that if as many motors are to be damaged by corrosive radiator anti-freeze solutions as the present indications would suggest, the cause of the Axis will be markedly aided, by lasting or permanent damage to America's vital transportation equipment.

The typical constituent of the new mixtures is calcium chloride which, to be sure, does provide protection against freezing, but its use brings with it other faults and dangers of a most serious nature, particularly the likelihood of serious corrosion of the engine, radiator, water jacket, and other parts.

Liberty magazine is not a journal to which one would look as a rule for reliable information on consumers' questions, but in its issue of November 28 it did provide a first-class though brief discussion of the new gyps among anti-freeze mixtures. The article, by Frank W. Brock, brings out a point that CR has regularly mentioned in discussing anti-freeze solutions, that while calcium chloride is effective as an anti-freeze, it is harmful to the engine jacket and metals, etc., with which it comes in contact. It can even cause short circuits in the ignition system.

Mr. Brock mentions that some calcium chloride solutions develop a high percentage of sediment—more than enough to clog a radiator. This is important, but it is also important from the consumers' standpoint that when inhibitors have been added to prevent corrosion, it is wise to assume that these are not effective when calcium chloride or some similar inorganic chemical salt is the basis of the anti-freeze mixture.

The damage which calcium chloride solutions can do to an automobile engine can hardly be overestimated, as the following report printed in one of the trade papers will show. A *Packard* car owner had six quarts of a calcium-chloride-base anti-freeze solution placed in his radiator. In a few days the radiator solution had attacked solder connections and produced a leak. The next day the car refused to start, and the aluminum head was found so badly corroded that when the engine was torn down the head broke during removal. Bits of corroded aluminum stuck to the piston rings and corrosion froze the entire engine, so that the cost of repair of the engine was estimated to be about equal to the cost of a new engine.

Radiators and water-jacket parts are expensive and, nowadays, almost irreplaceable, and the last thing one should do would be to subject them to chemical corrosion by experimenting with anti-freeze solutions of unknown and dubious supposedly new ingredients. Any reference in advertising to the work of scientists or scientific laboratories should be read with suspicion unless it is stated what scientist and what laboratory, and unless a copy of the report in full is made available to all who request it.

Considering that there might be a bare possibility that someone not scientific-minded had

Results of Corrosion Tests at Two Temperatures

Brand Name	At 40°F		At 180°F	
	Sample as received	Sample diluted 1 to 1	Sample as received	Sample diluted 1 to 1
Ever-Flo	No sign of corrosion after 5 days.	No sign of corrosion after 5 days.	Signs of corrosion appeared after 20 hours. Corrosion of aluminum was noticeable after 4 days; and aluminum and iron were badly corroded after 5 days.	Noticeable corrosion after 20 hours. Considerable corrosion of iron and aluminum after 40 hours. Signs of corrosion of copper after 5 days.
Fre-Zex	No sign of corrosion after 5 days.	Noticeable corrosion of the iron and copper commencing after 40 hours. Condition about the same after 5 days.	Considerable corrosion after 20 hours. Extreme corrosion, particularly of aluminum and iron, after 40 hours.	Appreciable corrosion after 40 hours. Extreme corrosion, particularly of aluminum and iron, after 3 days.
Zero-Flo	Trace of iron corrosion after 40 hours. Slight iron corrosion after 4 days. Trace of copper corrosion after 5 days.	Results same as are recorded for *Zero-Flo* in col. 1.	Aluminum started to corrode after 4 days, badly corroded after 5 days.	Trace of corrosion on aluminum after 40 hours. Appreciable corrosion of iron and aluminum after 4 days. Copper slightly corroded after 5 days.
No-Freeze	Very slight trace of corrosion after 1 day. No further corrosion after 5 days. Considerable swelling of inner wall of rubber radiator hose immersed in this product noted (at room temperature).		No sign of corrosion after 5 days. Tests for effect on rubber radiator hose were not made at this temperature.	

been lucky enough to use an inhibitor capable of counteracting or greatly diminishing the corrosive properties of calcium chloride, CR arranged to test some of the new brands that are in wide sale.

One of these, *Fre-Zex*, was advertised as "not just another anti-freeze," also as non-corrosive and strongly guaranteed, although, as usual with commercial products, no mention whatever was made of what was covered or indemnified under the guarantee. The manufacturer was evidently conscious of some suspicion at least among consumers on ingredients, for to forestall requests for information on this point, he stated in his literature: "Chemical Components. These we cannot reveal. Ours is a secret process which includes the treating, blending, and fabrication of certain chemical ingredients not previously associated with the anti-freeze industry. To protect our manufacturing and dealer organizations no portion of our formulae can be publicized." Tests of this product revealed its main constituent to be calcium chloride.

Corrosion tests were made using a number of metals—aluminum, iron, and copper—coupled together. These tests were made at two temperatures, one at 180°F (considered to be a fair average temperature of the contents of an automobile radiator when the car is running) and one at low temperature in a refrigerator. These corrosion tests were made on the products as received, and also, in the case of the products which were water solutions and not an oil, on the anti-freeze mixture as diluted with water in the proportion of 1 to 1.

Besides *Fre-Zex*, two other products of the water-solution type tested, *Ever-Flo* and *Zero-Flo*, were also found to contain considerable quantities of calcium chloride. A fourth product, *No-Freeze*, was found to be essentially a deodorized petroleum naphtha similar to kerosene, and not being mixable with water, the instructions called for it to be used undiluted. This would require from 3 to 6½ gallons of the product to be used, depending on the make of car. Kerosene properly refined does not imply any corrosive action on metal parts, but its softening and solvent effect on rubber make its use in the cooling system of an automobile particularly undesirable at the present time. Apart from this, kerosene is an undesirable anti-freeze because if over-heated, as can easily

occur in exceptional circumstances in the use of a car, it gives off vapor freely, and these vapors are, of course, highly flammable. The high boiling point of kerosene is also a disadvantage since it reduces the margin of safety against overheating which is provided when water solutions are used.

The consumer himself can readily identify calcium chloride and other salt solutions by their weight, which runs from 10.5 to 11.5 lb. per gallon. It is not necessary to remove the contents from the glass jars in which they are now shipped in order to arrive at their weight. Merely weigh the gallon jar and contents and subtract about 3 lb. [2 lb. 14 oz. if a narrow-mouth container, to 3 lb. 2 oz. for a wide-mouth container—these figures are, of course, only roughly approximate].

Another test that can be applied to a solution suspected of being calcium chloride brine is to take a teaspoonful or so of the solution, place it in the lid of a tin can, and boil until all the liquid has evaporated. (This test should not be applied of course to any of the oil or kerosene type fluids, which should be labeled flammable.) If the residue is hard salt-like crystals from pure white to a dirty brownish- or grayish-white in color, the product is pretty certain to be of the calcium chloride type or something similar.

Ethylene glycol anti-freeze solutions are lighter in weight than the salt solutions. They weigh about 9 lb. 6 oz. per gal.

Solutions of the deodorized-kerosene type are easily distinguished also. They will weigh about 6¼ to about 7 lb. per gallon, will feel oily between the fingers, and will burn on a string or wick wet in them. Though they have an odor, the odor is easily distinguished from that of alcohol anti-freeze. Another characteristic of the kerosene-type of anti-freeze already mentioned is that it can only be used undiluted.

The results obtained from the corrosion test are conveniently shown in the table. From these, it will be plain that anti-freeze solutions of the calcium chloride type are quite unsuited to being used in an automobile radiator.

In the listings, the figure in parentheses is the cost of "protection" to 0°F for a 5-gallon system based on the manufacturers' own statements of amount required. Analysis showed that the first three brands contained considerable calcium chloride, and each showed a positive corrosion test in contact with metals.

C. Not Recommended

Fre-Zex (Research Mfg. Corp., Boston, Mass.) $2.65 per gal. ($4)

Ever-Flo (Ever-Flo Co., Cleveland, Ohio) $1.89 per gal. ($4)

Zero-Flo (Banner Mfg. Co., Brooklyn, N. Y.) $1 per gal. ($2.75)

No-Freeze (Great Northern Chemical Co., Inc., Oak Park, Ill.) $1.50 per gal. ($7.50) Used undiluted. Essentially deodorized petroleum naphtha similar to kerosene. Flammable.

¶Too late to save thousands of cars from serious damage, the War Production Board has issued an order banning manufacture (not sale) of all anti-freeze solutions containing chlorides or petroleum (kerosene), because of their "highly destructive" effects on radiators, ignition systems, and rubber connections. Motorists were advised to remove such preparations from their radiators.

Winter Use of Automobiles

BACK IN THE DAYS when gasoline was cheap and automobile servicing was easy to get, those who sold and serviced automobiles habitually set or adjusted the carburetor so that the engine started off and developed full power as soon as possible after being started. Such an adjustment was a bad one, for *if an engine warms up quickly and easily on a cold day, it is most unlikely to give good gasoline mileage.* An engine which is receiving from its carburetor a lean mixture that favors good mileage takes quite a time to warm up, and it may sputter and miss considerably more when first started than one with a carburetor that is set rich. With an automatic choke, there is always some question whether the choking action has entirely ceased (so the choke-valve is wide open) when the engine is warmed up.

Do not attempt to cut down or eliminate the warming-up period in cold weather, with the idea of saving gasoline, for putting the engine under load too soon after starting may cause damage to cylinder walls, dilute the crankcase oil, and cause harm in other ways. There should be an adequate warming-up period, but note that the engine should not be "raced." It should be run no faster than necessary to keep it from stalling, and its speed should be decreased as the engine warms up and begins to act normally.

In making allowances for winter use of your car, you should not expect to get as many miles per gallon of gasoline as in summer, at least on most cars, in the hands of average users under present restricted-driving conditions. The Society of Automotive Engineers has recently pointed out that passenger cars have a winter-time decrease in efficiency amounting to about 2 to 2½ miles per gallon (variable, of course, with engine design, size, carburetor adjustments, etc.).

New Pans for Old

IF YOU STILL HAVE in your pan closet a good cast iron skillet, hang on to it. It has no equal as an all-purpose frying pan. By government orders, the use of metal for cooking utensils is pretty generally prohibited except for a few items. These include enough black steel for frying pans, mostly for use by the military services.

There is no doubt that some wartime restrictions bring out the very best in man's inventive genius. One well-known newspaper man recently did an interesting study which showed the evolution of different types of cheese from the original Roquefort, when war between the countries concerned prevented the import of that particular variety. The Italians, for example, when cut off from French-made cheese, developed Gorgonzola; the English, Stilton; the Danes, their Blue cheese; and in this country we are developing a very excellent Blue cheese to supply the demand formerly filled by all three of these imported items. These were no ersatz or make-shift products as they finally evolved, for the countries which developed a new type different from the original did not give up their own new product when foreign trade was again restored.

Skillets of Glass

What has happened in developing variations of the blue mold cheeses illustrates the process of human inventiveness and adaptation that extends to other fields. With cooking utensils, for example, there have been several attempts to secure with other materials the qualities of the old-fashioned heavy iron skillet used by our great-great grandmothers back in the early days of this country. One of the best of the non-metal types is glass ovenware and top-of-stove ware, such as the small glass frying pan made of Pyrex or other special heat-resistant glass. These have been used for a number of years and have been found very acceptable for certain types of cooking; and they have shown good durability in service—rather surprising durability, considering the fame of glass as a fragile, brittle material.

Skillets of Clay

Another non-metal skillet now making its appearance in household furnishings stores and department stores is of a kind of earthenware intended for top-of-the-stove cooking. Essentially its composition does not differ greatly from the French "Marmite" ware which has been on the market for many years, for those who like that particularly delectable soup known as Petite Marmite, which is a savory meal in itself. The casseroles, too, of similar ware have been used to a considerable extent in this country.

Earthenware frying pans, however, are new and still pretty definitely in the experimental stage. Some years ago Consumers' Research warned that brown glaze on cooking vessels was likely to be rich in lead and therefore presented a potential health hazard. At the time one subscriber wrote recommending certain French pottery cooking ware which guaranteed to be manufactured with salt glaze and to contain no lead whatsoever. It was her experience that food did not burn so easily when cooked in the pottery ware as when cooked in glass or enamel.

Cooking Tests

In order to test the new clay skillets, three different makes that appeared to be generally available were purchased by Consumers' Research for test. One, a white ware (Joaquinware, at 95 cents), was completely and very smoothly glazed inside and out, while two red-brown wares (Provincial Ware, Red Wing Potteries, 75 cents; Daison Earthenware, 75 cents) were glazed only on the inside. All three were used after simply being rinsed out with hot water and dried carefully.

The first test was to cook hashed-brown potatoes in all three, since they were of a size which would be particularly handy for cooking small leftovers of this type. In no one of the three did the potatoes brown evenly with a nice crispy crust. In the *Joaquin* skillet (glazed on all surfaces) the potatoes did not brown at all. In this first cooking test the two pans that were glazed only on the inside gave off an unpleasant odor of hot clay. The *Daison* skillet was the worst in this respect, and the potatoes tasted slightly of clay when the cooking operation was completed.

Next a piece of chicken was sautéd in a small amount of butter from a cold start. The *Joaquin* skillet broke in several pieces after the chicken had cooked for about seven minutes. The other two cooked

the chicken somewhat unevenly.

Eggs were easily cooked in both the *Daison* and the *Red Wing Pottery* skillets. The whites of the eggs showed a rather odd effect, however, in the presence of numerous holes and bubbles, when they were done. The *Red Wing* skillet broke after the fourth using.

The *Daison* skillet was still intact after some half dozen usages, but the too-evident porosity of its glaze made it seem quite undesirable as cooking ware. It would tend to retain flavors and particles of the food previously cooked in it and also would be difficult or impossible to wash without absorption of grease and other substances from the dish water, unless it were given special treatment that would be inconvenient and time-consuming. The punctured appearance of the whites of fried eggs, which were full of bubbles and holes made by air or steam emerging from the porous body through small holes and porous areas in the glaze, would be objected to by many people accustomed to a smooth even appearance of the whites, and furthermore, the flavor was somewhat affected by the clay.

No tests were made to determine the nature of the glaze of these utensils, since all three were considered pretty definitely unsuitable to serve as effective substitutes for utensils of the customary and time-tested materials, for top-of-the-stove cooking. These vessels might, however, have been serviceable to some degree as small casseroles for oven cooking, where quick temperature changes and consequent damage to glaze would be much less severe.

There would appear to be little excuse for marketing a utensil for top-of-the-stove cooking, which is so lacking in heat resistance as were two of these skillets that broke apart very early in the test and without any sort of accident or abuse. It is known, for example, that insulator discs or blocks of refractory material as commonly made for electric stove and hot-plate heating units withstand up to 1500°F and can be quenched in cold water without failure or evident damage. It should be entirely possible to make, and at the price charged, a heat-resistant ceramic skillet that would withstand quick heating and cooling. At the present time, the particular utensils tested must all be considered as definitely poor substitutes for traditional materials for top-of-the-stove cooking.

An egg fried in the pottery skillet (at the left) showed numerous large and small holes due to bubbles "frozen" in their passage from the body of the ware through the glaze and upward through the white of the egg. On the right is seen an egg cooked in a metal pan; its white has the smooth and even appearance one expects of fried egg white.

Pie Pans of Paper

Two fiber pie plates, also in the war-substitute class, one called *Bake-A-Pie* plate, the other *Bakoware*, both available for about 2 cents each from the five-and-ten-cent stores, were tried out. These were found to be quite satisfactory for baking pies. An apple pie baked in the *Bakoware* had a doughy bottom crust when directions were followed to bake on the open oven grid. When the pies, however, were baked on the bottom of the oven of a coal stove, the crust browned quite well. Obviously the fiber composition did not transmit the heat to the bottom of the pie so well as does the bottom of the customary tin pie pan. These paperware pans are more expensive to use, of course, than the tin pan, but will undoubtedly be entirely satisfactory and afford a saving where pies are baked for a church supper, bake sale, or a USO party, and one cannot always be sure of getting one's own pie tin back.

Safety-Razor Blades

MANY OF OUR SUBSCRIBERS, in addition to those who have written us letters of complaint, have perhaps wondered why their more recent purchases of certain recommended safety-razor blades have not been up to their usual quality. A check with one manufacturer whose blades have been recommended by CR but have lately been below par as to sharpness revealed that being no longer able to obtain high-grade imported Swedish steel, he had changed to domestic steel and use of this steel had resulted in some temporary difficulties in the factory due to its somewhat different response to grinding and honing. These difficulties have now been overcome, as experience developed with the new material, and blades *now* being turned out were tested by CR and found to be comparable in quality to those formerly made of imported steel.

Those of our subscribers unfortunate enough to secure blades made during the transition period should ask the manufacturer for permission to return unsatisfactory unused blades, or charge their discomfort to Hirohito, Hitler, and Mussolini.

As this article is being written, the latest information is that the *manufacture* (not the sale) of razor blades is to be greatly reduced. Present stocks for civilians are asserted to be sufficient, but as there can be no continuing guarantee of this, the wise consumer who has only a small or moderate stock of blades will do well, we believe, to buy a good razor blade sharpener while sharpeners are still available in the stores. CR has found that even blades that would be classed as mediocre can be made to give many good and comfortable shaves if an efficient razor blade sharpener is used. (Two for double-edge *Gillette*-type blades were reported in the December issue: *Twinplex* [Twinplex Mfg. Co., 1800 Roscoe St., Chicago] $1, and *Handy Andy Velvet* [Velvet Stropper Co., 995 Market St., San Francisco] $1.)

In view of the changed conditions of blade manufacture, CR will test a number of brands that give promise of exceptional performance under the new conditions as to steel supplies and report the findings every few months for a time. Send us samples of any blades you're particularly interested in or consider exceptionally sharp or durable.

In the listings which follow, the figures in parentheses are the price per blade.

Double-Edge *Gillette*-Type Blades

A. Recommended

Dublekeen (General Blade Co., 7 West 22nd St., New York City) 30c for 10; $2.50 for 100 (2.5c). An occasional edge found with poor initial sharpness. **2**

Master Cutler (Edwin Jay Inc., 19 West 34th St., N. Y. C.) 50c for 25 (2c). A good, but not exceptional, blade. **2**

Thin-Flex (General Blade Co.) $2.50 for 100 (2.5c). Best brand in present test. **2**

B. Intermediate

Berkeley (Consolidated Razor Blade Co., Inc., 20 Cornelison Ave., Jersey City, N. J.) 25c for 18 (1.4c). A good blade-buy considering its low price. Quality better than the *Marlin* (which was priced the same). **1**

Marlin (Marlin Firearms Co., New Haven, Conn.) 25c for 18 (1.4c). This widely sold brand since its introduction to the market about six years ago has on repeated tests by CR varied in quality at different times, indicating that manufacturer does not maintain close control over quality of output. **1**

Star (Star Division, American Safety Razor Corp., Brooklyn, N.Y.) 10c for 5 (2c). **2**

C. Not Recommended

United Whelan Thin (United Cigar-Whelan Stores Corp., N.Y.C.) 25c for 20 (1.25c). **1**

Ardell (Ardell Razor Blade Corp., 6 West 32nd St., N.Y.C.) 15c for 5 (3c), but package marked 25c for 5. **2**

Pal Hollow Ground (Pal Blade Co., Plattsburg, N.Y.) 10c for 4 (2.5c). **2**

Gillette Blue (Gillette Safety Razor Co.) 25c for 5 (5c). Highest-priced blade in test, yet mediocre quality. **3**

Castile Soap

TRUE CASTILE SOAP has become more and more difficult to obtain in recent years. As is well known, it has important values for delicate skins, being safe and mild. Most of the castile soap sold in stores is no longer genuine castile. This has come about because, a few years back, court decisions (following trade practices and nomenclature discussed in a Bureau of Standards bulletin) established a definition for castile soap that took away all official support for the term as signifying a soap made with pure olive oil only, with no other oil, fat, or grease used in its manufacture.

In spite of this loss of definite meaning for a trade term of long-standing, the consumer has some degree of protection, for if the castile soap is a true old-fashioned castile, its label or wrapper or the bar itself is almost sure to carry a statement clearly declaring that all of the oil used in making the soap is olive oil. (A statement "Made with Pure Olive Oil" is not the same as one which says "Made Wholly with Olive Oil," for the first form would be only an assurance that whatever olive oil was used was "pure.")

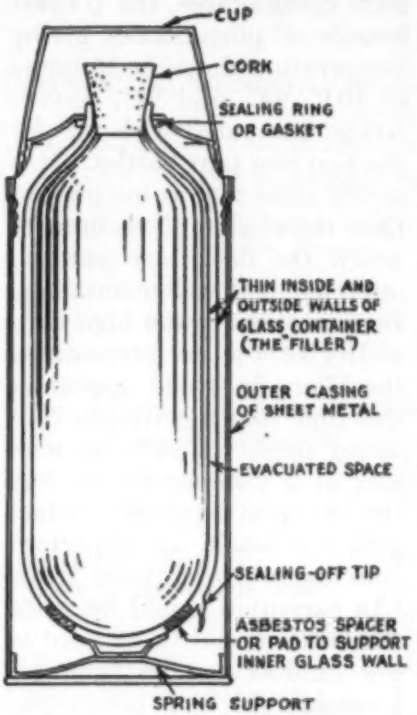
One of the few soaps known to be strictly an olive oil product that is still available is *Laco*. This soap was one of the brands that received an *A* or a *B* rating on the basis of chemical analyses conducted for CR. Two *Williams* brands and *Conti* are no longer available except to the extent that stocks bought by drugstores some months ago are still to be had.

Vacuum or "Thermos" Bottles

WAR WORKERS, AIRPLANE SPOTTERS, Air Raid Wardens, and other home defense workers, who find it necessary to have hot stimulating drinks during periods of duty, will find a good vacuum bottle indispensable—even though there may be times when something besides coffee will have to be used to fill them.

The most important characteristic of a good vacuum bottle is its ability to keep liquids hot (or cold). Its ability to do this depends primarily on the insulating properties of the space between the two thin glass walls of the filler, from which all but a very small residue of the air has been evacuated by a high-vacuum pump. The inside of the thin glass walls is coated with a very thin mirror-surface of silver to reduce heat losses by radiation from one wall to the other. Heat transfer by conduction (except along a long path of thin glass), and by convection, is reduced by the elimination of the air between the walls.

The most important practical feature of the vacuum bottle, aside from its keeping the liquid hot as long as possible, is that its construction should be such as to prevent the ingress of liquids anywhere except into the corked double-walled glass container itself. To this end, all bottles should have a well-fitted rubber or composition sealing-ring around the neck of the filler. It would be desirable that there should be another sealing-ring around the threaded ring which fits over the shoulder of the filler and into the case, but the recently purchased bottles do not have a seal at this point. Only with such gaskets can seepage of liquids into the space between the casing and filler be effectively prevented. This defect can be serious, for liquid which passes outside the filler and inside the metal shell or casing may later be delivered into the cup or tumbler with the contents of the filler, and such liquid, of course, might be grossly contaminated bacteriologically. The old practice of providing a cylinder of corrugated cardboard as a cushion between the filler and the case has apparently been abandoned—a most desirable change, since the cardboard often became damp and mouldy and gave off offensive odors.


CUP
CORK
SEALING RING OR GASKET
THIN INSIDE AND OUTSIDE WALLS OF GLASS CONTAINER (THE "FILLER")
OUTER CASING OF SHEET METAL
EVACUATED SPACE
SEALING-OFF TIP
ASBESTOS SPACER OR PAD TO SUPPORT INNER GLASS WALL
SPRING SUPPORT

Sectional view of the present-day vacuum flask, showing the principal parts. These consist of: a metal casing; a double-walled insulating glass container (filler); a shock-absorbing device, consisting of a cup and spring which cushions or supports the filler; a threaded shoulder, which fits over the neck of the filler and screws onto the casing; a rubber sealing gasket; a cork stopper; and the screw-on cover over the cork, used as a cup. The asbestos spacers are placed between the two walls of glass during manufacture in order to add strength to the filler.

Many manufacturers include with their bottles a leaflet giving instructions on their care, but unfortunately these are usually either lost or regarded as mere advertising and thrown away. The following, quoted from the directions given by one of the large manufacturers [Thermos] is good advice on keeping a vacuum bottle clean:

> Tear up a few scraps of paper, poke them into the bottle, add a small quantity of bicarbonate of soda (baking soda) solution, and shake well. Rinse bottle, and *leave it open* until again used. Fresh air keeps bottle and cork sweet. *Do not submerge bottle when washing. Periodically unscrew metal shoulder and clean interior of case.*

It will help to keep liquids hot longer if the flask is rinsed with hot water before a hot liquid is put in, or with cold water before a cold liquid is put in.

Under the present conditions of material shortage, the bottles very commonly had parts which would readily rust in service. To some degree, the user can prevent this by coating such parts with clear lacquer, and taking pains to dry the bottle carefully after each use and washing.

If you wish to determine how good are the various vacuum flasks which your family may have, you may easily test them by filling with vigorously boiling water poured directly out of the kettle. Cork the bottle tightly, put on the cup or cap, and let stand for 24 hours at room temperature. Then measure the temperature quickly with some sort of immersion

thermometer—e.g., a candy, fat, or photographic thermometer small enough to enter the mouth of the bottle. (In CR's tests, the temperatures were measured by thermocouples to reduce the heat loss at the time of taking readings, since the temperatures over most of the run were taken hourly.)

Of the bottles tested by CR, all except one brand were made by the American Thermos Bottle Company. This company states in its literature that all its "*Thermos* brand" bottles are subject to a rigid thermometer test which they must pass, otherwise they are discarded. CR's tests, however, would indicate that these tests could not properly be called rigid, for one pint bottle permitted the temperature of its contents to drop 94°F in 24 hours, while in the best of the pint bottles tested the temperature drop was only 66°F. In general, it can be said that any pint bottle which does not permit the temperature of its contents to drop more than 80°F from near boiling point in 24 hours in a room at ordinary temperature will be about as good as the present average of pint bottles. For the quart size, the temperature drop in 24 hours from boiling point should be 60°F or less. On this basis, and allowing for some cooling when the beverage is poured out, the poorest of the bottles tested would keep its contents hot for from 8 to 10 hours. The best did very much better, and would keep the liquid hot (above 150°F) *for nearly 24 hours*. Since the contents of a vacuum flask or bottle in ordinary consumer use will usually be consumed well within 8 hours from the time of filling, it would seem that any of the bottles tested would serve for most users.

The differences obtained in the results of various bottles were considerable, the poorest brands of pint bottles giving temperature drops in 24 hours of 103°, 94°, and 91°, respectively, compared with 66° for the two best pint bottles. It is pretty plain that at the present time the degree of vacuum to which the flasks are pumped out is not at all well maintained. In view of the rather high variability of the performance of the fillers, it would appear at this time that the average consumer might as well, *for most uses* of a vacuum bottle, buy the cheapest available, a fact which is itself an important conclusion from these tests. (An exception would be when the bottle would be exposed to low outdoor temperatures for a considerable time before consumption of the contents.)

A further important fact is that if it is desired to have the bottle retain heat as long as possible this can be best gotten by buying a quart rather than a pint bottle (assuming, of course, that there is use for that quantity of hot liquid; the principle does not apply if the quart bottle is not filled). The quart bottle has an advantage over the pint of about 20°F higher temperature of liquid at the end of 24 hours. From these tests it became evident that the quality of vacuum bottles has definitely deteriorated since tests were made by CR in 1937.

Some of the bottles tested by CR had metal caps; *Thermos* had caps made of a plastic composition. The latter are more comfortable to handle when containing a very hot liquid. However, they frequently crack or break without warning, or upon even the slightest shock or impact (as they did in CR's tests). To replace one might often be decidedly inconvenient, and in its absence, the value of the bottle to the user will be considerably impaired. Where there is any doubt about being able to get prompt replacement of a broken cap, the consumer would probably be well advised to buy a bottle with a cap made of metal. A type of bottle once widely advertised (but not included in the present test) uses a double-walled porcelain-enamel-lined steel filler instead of a glass filler. For ordinary use, this "unbreakable" type of vacuum bottle cannot be recommended, for its heat retention properties are decidedly poorer than those of the glass-filler bottles. Besides, when empty, such a bottle in the pint size will weigh over 2 lb., well over twice as much as a vacuum bottle with glass filler.

A. Recpmmended

Icy-Hot (Icy-Hot Division, American Thermos Bottle Co., Norwich, Conn.) $1.69 quart size. 1

Keapsit (Distributed by Montgomery Ward retail stores. Made by American Thermos Bottle Co.) 89c pint size. One of two best pint bottles. 1

Icy-Hot (Icy-Hot Division, American Thermos Bottle Co.) $1.09 pint size. The sample was one of best pint bottles in the test in heat-retaining quality. 2

Thermos (American Thermos Bottle Co.) $2.25 quart size. Had a nest of four cups. 2

B. Intermediate

Columbia (Landers, Frary, & Clark, New Britain, Conn.) 98c pint size. 1

Sta-Rite (Distributed by Sears, Roebuck & Co., Cat. No. 6—7311. Made by American Thermos Bottle Co.) 79c plus postage, pint size. One of poorest in heat-retaining quality (only one of this brand was tested). 1

Wizard (Distributed by Western Auto Stores. Made by American Thermos Bottle Co.) 89c pint size. 1

Thermos (American Thermos Bottle Co.) $1.19 pint size. Two samples found relatively poor in heat-retaining quality. Plastic cup of one sample was cracked during test. 2

The Value of Meat in the Diet—II

By

B. W. GARDNER, JR., UNIVERSITY OF ILLINOIS

THE TERM *biological value* is used to express the *suitability* of proteins in the diet. Proteins which contain essential amino acids in proportions best suited for the construction of body tissue are said to have higher biological value than those proteins which lack certain essential amino acids, or whose essential amino acids are in undesirable proportions. The proteins found in several foods are compared in terms of biological value in Table I.

Table I—*Biological Value of Various Proteins*

Animal Source	*Biological Value in Percent*	*Plant Source*	*Biological Value in Percent*
Eggs	93%	Soybeans	64%
Milk	85%	Flour (wheat)	52%
Meat	75%	Beans	38%
		Gelatin	0%

Table II—*Comparative Chemical Composition of Some Meats*

Meat	*Water %*	*Protein %*	*Fat %*	*Energy-Calories*
Lean beef T-bone steak	67.0	19.7	12.7	900
Medium fat beef T-bone steak	60.6	18.5	20.0	1190
Fat beef T-bone steak	54.7	17.5	27.5	1490
Medium fat *beef* round steak	65.5	20.3	13.6	950
Medium fat *veal* round steak	73.5	21.3	4.1	570
Medium fat leg of *lamb*	63.9	19.2	16.5	1055
Fresh ham slice (pork)	60.0	25.0	14.4	1075
Cured ham slice	58.0	19.8	20.8	1209
Cured bacon slice	24.5	10.5	64.8	2840

It is not possible to compensate for the lower biological value of beans as compared with meat simply by eating twice as many beans. The following illustration will show how the essential amino acids work. Let it be assumed that A, B, C, and D are four essential amino acids. The protein in the body which is to be made from the food proteins is made up in this proportion, $A_3B_6C_4D$. For convenience' sake let it be assumed that the protein food sources are beans containing $A_3B_6C_4$; soybeans containing $A_3B_6C_2D$; and meat containing $A_3B_6C_4D_2$. Beans would be useless to build the body protein because they do not supply the essential amino acid D required in the body protein. Soybeans supply all the essential amino acids, but it would require two molecules of it to furnish enough of the amino acid C to form one molecule of the body protein.

In contrast, one molecule of the meat protein will form one molecule of body protein with only one amino acid D left over, as compared to over one-third of the soybean protein that was left over after one molecule of body protein was made. Thus the meat protein ranks above bean and soybean protein and has a higher *biological value*. In selection of protein substitutes for the meat proteins in the meat-rationed diet, it is essential that their biological value be considered. So far as possible, these substitutes should come from animal sources. These include such foods as eggs, milk, and cheese. Soybeans provide the only reliable meat-protein substitute of vegetable origin.

The general chemical composition of meat has been discussed in the first article. A more specific comparison of the chemical composition of various kinds of meat will be helpful in the selection of meat for specific purposes. This comparison is shown in Table II.

A study of Table II shows that the composition of meat varies with (1) age, (2) cut, (3) finish,[1] and (4) species. It will be noted that the veal contains a much higher percentage of water and a lower percentage of fat. This is one of the reasons why veal lacks the palatability of more mature beef. It will also be noted that the high percentage of water contained in veal makes it a meat which is not economical to buy. In the interest of greater production for the war effort the consumer should use a minimum of veal. This will enable the cattleman to furnish more

[1] Editor's Note: Finish as defined by the National Live Stock and Meat Board refers to the quality, amount, color, and distribution of fat. Its effect is primarily upon palatability and tenderness.

meat when the animal is finished and slaughtered at a more mature age. The low fat content of veal has one advantage in that the meat is low in calories, which makes it useful in a reducing diet. On the other hand the same characteristic makes it undesirable for veal to constitute any considerable part of the diet of a person doing strenuous physical labor.

There is small difference between the amounts of water contained in T-bone, round steak, and the fresh ham slice. There is a greater difference in fat content. This is noted when one observes the calorie content of each cut respectively. It is much easier to observe the differences in "finish" that is shown in the three T-bone steaks as they are seen in the butcher's display case. The fat T-bone is desirable for the hard-working defense worker, farmer, or laborer, because of the low water content and high calorie content. The lean T-bone, on the other hand, supplies as much or more protein but is low in calories. This makes it a desirable food for the less strenuous occupation of a housewife or office worker or anyone who must watch his diet in order not to gain weight. This wide range of calorie content with a constancy of protein makes meat unique among basic foodstuffs in that it is suitable for all persons, whether on a reducing diet, on a diet to gain weight, or the type of diet required for vigorous physical labor. Thus very few foods have the nutritional versatility possessed by meat.

The principal difference in meats determined by species is between pork and beef or lamb. Pork is high in energy. It has long been the standby of out-of-door men who perform hard labor. This difference is more prominent in the United States where custom and merchandising practices have brought about the production of fat pork exclusively. In Great Britain, Canada, and certain of the countries on the European continent where lean "bacon" hogs are produced, pork will have more nearly the same fat content as beef and lamb.

In general it should be observed that the percentage of protein in the meat remains fairly constant in all the above comparisons. It should also be noted that the higher the fat content the lower the water content. This indicates that the fatter the piece of meat is the more economical purchase it would be, from the standpoint of food values and energy received per dollar spent. This is quite true until the point of excessive fat is reached—the point where the fat is not consumed but wasted, or turned into cooking fat or soap grease. Fat meat then ceases to be an economical purchase and becomes a luxury purchase. The extra fat will not be consumed but will only have added to the palatability of the cut of meat.

For economy, the meats that should be purchased are those grading U. S. Commercial (fourth grade on the scale of seven standard grades) and U. S. Good (third grade). Meat grading lower will lack the fat that gives it the highest palatability. Meat grading higher will contain more fat, which contributes to palatability and flavor, but is not necessary from the nutritional standpoint alone for most consumers. U. S. Prime (top grade) and U. S. Choice (second grade) are distinctly luxury meats. Their greater amount of fat, though adding much to the palatability of the meat, adds little nutritional value.

The importance of meat in the consumer's diet must not be eclipsed by the meat rationing. A brief resumé of the value of meat will help the consumer to keep this in mind. This may be summarized under a half dozen points.

1. Meat is a high protein food. This protein is of very good quality, and *of high biological value.*

2. Meat is an excellent source of certain essential minerals.

3. The fat of meat is a very concentrated fuel. This makes meat especially necessary for quick recovery of strength and energy after strenuous labor. Meat is also a good source of heat to keep the body warm.

4. Lean meat is excellent in the reducing diet. The high protein value will help burn body tissue that would not otherwise be burned. This lean meat is very palatable, and there is available a variety of ways of preparing it.

5. Meat furnishes a good natural source of vitamins. All meats, properly prepared, are a rich source of the whole vital vitamin B complex, which is now known to be especially likely to be provided in insufficient quantity in the average American's diet. In addition, organ and glandular meats (e.g., liver, heart, brain, kidney, sweetbreads) are important sources of vitamins A and D, and of other valuable nutritional substances.

6. Meat is a satisfying food. The naturally fine flavor of meat makes the meal more satisfying. "Meat sticks to the ribs." This is why, in olden times, meats constituted almost the whole of the food consumed in inland regions, or was at least

the mainstay of the table; and why in modern times when economy and scarcity dictate a decreased use of meat, the wise homemaker plans her meal around the meat dish. With no other sort of food can such a variety of highly palatable foods be prepared.

The question of how the meat rationing will affect the consumer's diet cannot as yet be determined. On the basis of the present voluntary rationing of two and one-half pounds of meat per week, an approximate estimate of the amount of food constituents available in meat can be made. This is given in Table III.

Table III—*The Amounts of Food Constituents Furnished by Two and One-Half Pounds of Meat*

Food Constituent	*Weekly Requirements for an Average Man*	*2½ lb. of Meat Supplies*	*% of the Weekly Requirements Supplied by 2½ lb. of Meat*
Protein	595.0 gm.	206.00 gm.	34.6
Calories	21,000.0	3,580.00	17.0
Calcium	5.6 gm.	0.12 gm.	2.1
Phosphorus	9.1 gm.	2.28 gm.	25.1
Iron	84.0 mg.	23.50 mg.	28.0
Copper	14.0 mg.	2.76 mg.	19.7
Vitamin A	35,000.0 I.U.	269.00 I.U.*	0.8
Thiamin (B_1)	12.6 mg.	9.24 mg.	73.3
Riboflavin (B_2)	18.9 mg.	3.30 mg.	17.5
Nicotinic Acid	126.0 mg.	102.00 mg.	81.0
Vitamin C	525.0 mg.	None	—
Vitamin D	About 2,800.0 I.U.	Very little*	—

* Among meats, the glandular meats are the best, almost the exclusive, source of these vitamins, and the glandular meats are not to be rationed. These estimates are based on the proportion of liver to the total of meat which is consumed by the average meat-consumer.

The figures given in Table III are approximate and useful for illustrating the quantity of each important food constituent found in the two and one-half pounds of meat allowed under the voluntary rationing program. They are given for what would be considered a moderately active average man. These figures do not apply to children, who have different requirements and at the same time are allowed less meat in the rationing program. Meat, while supplying a large quantity of most of the food constituents listed, should not be considered as the sole source of any one of them in a well-balanced diet.

Anti-freeze Lamp for Extreme Weather

THOSE WHO HAVE BEEN UNABLE to secure sufficient anti-freeze of an approved type to protect their cars' radiators to the lowest temperature likely to occur in their locality will be interested to know of a special type of portable kerosene heater. This heater is intended to keep an automobile engine safely above the freezing point of its anti-freeze solution on very cold nights and to provide quick-starting in cold weather.

Such heaters are intended to be hung under the hood, from the bar that braces the radiator to the dash, or be placed on the engine head or the engine pan. The hood of the car is covered with a blanket to hold the heat in. A small sheet of asbestos is provided to place above the lamp as a guard to protect the paint on the hood from damage. These heaters appear to be quite safe, if correctly used, but care must be taken to see that the cover over the opening provided for priming and lighting is *fully closed* after the heater is lighted and that the filler cap (which is screwed in and out to control the amount of air supplied to the flame) is at no time screwed out so far that it could fall out by itself while the lamp is burning.

Such heaters should be examined fairly closely from time to time to see that nothing has gone wrong, particularly with the screen, for the screen may corrode with use and be easily punctured. Under such conditions the lamp would be definitely unsafe and involve serious explosion hazard, so that it should not be used again until the screen has been replaced by a new one. These heaters use an old principle to prevent ignition of gasoline vapors that might be present under the hood, the flame, as in an oil-burning miner's lamp, being completely surrounded by a fine mesh screen which functions by conducting the heat away at so rapid a rate that any explosive gases which may be present are not ignited.

The heaters require priming with a small amount (about a tablespoonful) of alcohol each time they are to be lighted. Operation is quite economical

[*Concluded on page 21*]

Auxiliary Heating for Fuel-Oil Users

A COLLEGE TEACHER, Professor G. J. Stout of The Pennsylvania State College, after reading CR's article on auxiliary heating equipment in the November BULLETIN, wrote to discuss a way in which he is providing a chimney connection for a stove used as an auxiliary heat source (as a means of partially compensating for the deficiency in fuel-oil supplies). His solution of the stove flue problem is so simple that it might be overlooked by many. Many who have an open fireplace are probably right in doubting its effectiveness in supplying heat in sufficient amount to make up for the reduced amount of fuel oil allowed under the rationing scheme. Others who have a fireplace would wish, if possible, to take advantage of the enormously greater *efficiency and economy* in use of fuel that is given by a coal stove or base-burner, Franklin stove, or other cast-iron heater burning wood, coal, or coke.

The problem is to find a suitable connection for the stove pipe. This can be done by closing up the fireplace opening either by laying bricks or mortar (a weak mortar preferably, so that the bricks can be removed later without trouble when the fireplace is to be restored to its ordinary use). If a less permanent and less neat job will serve, obtain a piece of painted sheet iron siding of the type embossed in the manner of brickwork, somewhat larger than the fireplace opening. The sheet iron would be made to fit in the fireplace opening; its edges would be bent at 90°, to hold the sheet flat and give it the additional rigidity that it needs. If the fireplace opening is one that is difficult to fit, the sheet iron can be made a little larger than the opening and fitted to the face of the fireplace, as shown in the illustration.

There should be a hole in the iron sheet at the right position for the flue pipe from the stove to enter and pass into the fireplace opening and right back to the throat of the fireplace flue. In the event the sheet iron is not sufficiently rigid, stiffening members of wood can be fastened to the sides and bottom. No wooden member should be used for the top, as in nearly all cases it would be impossible to obtain the necessary clearance from the hot smoke pipe to make any wooden bar across the top absolutely safe against charring or burning. When the fireplace is of stone, plain painted metal can be used and leakage space due to irregularities of the stonework can be blocked with asbestos fiber, mineral wool insulation, or other inexpensive non-combustible material.

Before purchasing a unit heater to use in this way, whether new or secondhand, make certain that its stove pipe outlet is not higher than will

permit the use of the fireplace opening for the stove pipe connection. If the outlet is too high, the stove in some cases can be lowered sufficiently by removing the legs; in that case, naturally, the stove must rest on a concrete or metal slab of such shape and size as will leave no possible question of danger of setting fire to woodwork or flooring. If the stove is *too* low with the legs removed, blocks of stone or tile, or bricks may be used to bring it up to the right height, to permit an air-space, and a sheet of metal placed under it as measures to eliminate the danger of overheating the floor.

A photograph of one typical arrangement of stove, flue pipe, and cover for the fireplace opening is reproduced herewith. The stove used was of a kind often sold in secondhand stores; prices asked for such stoves have often been in the range of $10 to $20. This method can of course also be used with certain types of oil-burning stoves[1] having low flue outlets.

[1] Oil-burning stoves are mentioned because, while at the present time kerosene and fuel oil are rationed (in some areas), no one can predict what the regulations on oil for emergency heating will be in any particular region in the future.

Teachers

If you are using CONSUMERS' RESEARCH BULLETIN in class, ask to have your name put on the mailing list for the Consumer Study Outline. It contains questions based on the current Bulletin and timely projects and suggestions for supplementary reading.

There is no charge for this teaching aid for teachers who wish to use it in connection with their classroom work.

Keep Cheese Cold

"How do you keep cheese?" one subscriber wants to know. Cheese is an important protein food and is one of the most popular of meat substitutes. In these days of gasoline and tire shortages, the housewife who does the bulk of her marketing once a week will likely be making her purchases in larger quantities, so that she needs to consider carefully the problem of keeping cheese in good condition.

Some cheeses will keep for a longer time than others. *Unripened cheeses*, for example, have poor keeping qualities and should be purchased only in small amounts for immediate consumption. Other cheeses that should also be purchased in small amounts for immediate eating include Limburger, Brick, and Munster. Cottage cheese is very perishable and will keep only a short time even under refrigeration. Camembert also will not keep for any length of time.

Ripened cheeses of certain varieties may be kept for a longer time. The housewife who uses a great deal of Cheddar or American cheese may find it convenient to buy five or ten pounds at a time or one of the long oblong or brick forms. In slicing such cheeses, the piece should be cut off squarely. The cut side may then be buttered or turned down on a plate or covered with cheese cloth dipped in melted paraffin and put away in a cool and well ventilated place—not necessarily in the refrigerator if another cool place for storing is available.

Cheese connoisseurs suggest that even though cheese is kept in the refrigerator, it should be allowed to stand at room temperature for at least an hour to twenty-four hours before it is served in order to bring out its flavor. It is important also that it should not be allowed to freeze, or both the flavor and texture will be adversely affected.

Another method that has recently been suggested for keeping smaller quantities of cheese of a hard variety, such as Cheddar, Swiss, and Edam, is to keep it in a large glass refrigerator dish with a cover and put a small glass of salt water in the container beside it in the least cold part of the refrigerator. Pieces of hard cheese may also be wrapped in a damp cloth before storing in a cold place. Packaged cheese should be kept tightly wrapped in its foil or protective covering.

If cheese, particularly American and Swiss, should happen to be kept so long that it dries out and becomes too hard for table use, it can be used most effectively by grating it finely and putting it away in a covered jar (not necessarily in the ice box) for the next time you make an *au gratin* dish or macaroni and cheese.

When used in cooking, cheese should be finely divided and blended thoroughly with other ingredients. Thus absent-mindedness in allowing cheese to dry out works no hardships in such use since cheese is easier to grate in the dry, hard state. Grated cheese may also be used effectively in making biscuits, muffins, cheese straws, and other types of pastry, or may be sprinkled over a hot baked potato as a substitute for butter.

Portable Typewriters

A RECENT DECISION of the Office of Price Administration makes available for sale or rental to consumers what are called "stripped" portable typewriters. Such portable typewriters are those which have no more than one of the following three features:

1. Tilting or folding paper table, the inclined sheet metal strip behind the platen which is moved up or forward to give access to the marginal-stop adjustments.
2. The so-called "self-starter," or paragraph key.
3. A key-touch adjustment controllable by the user.

Many consumers will be glad to know that at last an opportunity has been made available to buy without rationing restrictions (which are too stringent on typewriters to be of much interest to the average ultimate consumer) these stripped typewriters which lack only minor refinements—refinements that are, as a rule, of no particular importance in any case to the average home or traveling user of a portable typewriter.

The typewriter is playing a large part not only in military operations, but in civilian defense; it will help too in a great many of the consumer's new and ever more frequent contacts with the federal and state governments and their armies of officials and local and regional office-holders, inspectors, and investigators in the filling out of forms and applications.

While the present report on portable typewriters (which was prepared in 1942 and held up on account of the sudden restriction, in March of that year, imposed by the government upon typewriter sales) lists only two of the so-called stripped models, subscribers will find that the information given will be of direct value in any purchase of any make of portable typewriter since in their essentials, typewriters stripped or otherwise are very much the same in a given make, and the comments made will, for the most part, be applicable. It will be noted that a number of points which are commented upon in the listings will be characteristic of the design and be of a much more essential nature from the consumer's standpoint than the convenience features which determine whether a typewriter is in the "stripped" class or not. As most consumers know, portable typewriters have not been manufactured since July 31, 1942.

Advantages and Disadvantages of Portables

Each of the large manufacturers made several models of portables. Those listed in this report are considered to rank among the best of their respective makers. The main differences between the machines listed consisted in certain convenience features designed to establish differences in talking points and salability. (These enabled the manufacturer to have quite a range in price between the top and bottom models—a range, however, which does not reflect differences in cost of production or, usually, of practical value to the user of the machine.) Among these features are: paper fingers, inbuilt tabulator, lateral paper guide, card-writing adjustment. (Of these, perhaps the paper fingers, which help with card- and label-writing, are the only item that need be very seriously considered by the home typewriter user.) For the purchaser who just wants to type a letter, memorandum, or personal or official reports, and is not an expert on a machine, a good many of the extra features that make for a difference in price (sometimes as much as $10) are not worth considering. The fundamental mechanism of the machine and the quality of its typing will not differ significantly. (An accountant, for example, might have great need for the tabulator feature, whereas the occasional letter-writer or author would have little or no use for it.)

Portable typewriters often resemble the full-sized machines so perfectly in respect to the number of gadgets and facilities afforded that the consumer wonders whether the portable cannot completely perform the functions of the full-sized typewriter. Actually, however, the portables cannot be compared to the office models. Whereas the standard typewriters are so ruggedly designed and constructed that they should last a lifetime in the light service of the home or small office, portables even when new frequently have annoying defects, and because of the

lightness of their construction and the lack of room for adequate bearing surfaces and joints, they are considerably more difficult to put into and keep in good working order. But for light use, and where it is important to have a machine that is easily moved about, portable typewriters do fill a decided need.

It is important to remember that the portable will in no case be as well suited as any large typewriter to the heavy demands of regular office correspondence or any such specialized work as stencil cutting, tabulating, work requiring many clear carbon copies, etc.

Be sure to note, before making your purchase, whether the keyboard of the machine you have selected is one that contains all the characters you are likely to need. Although there may be some extra charge made for key substitutions, such changes can still be made. Special characters, such as the carat, paragraph sign, brackets, foreign language accents, or symbols used in mathematics, engineering, or the sciences, may replace some of the keys on the standard keyboard which are less likely to be given frequent use. The following keyboard arrangement is one that CR has found especially suitable for its own office work:

```
" * $ ¢ _ & ' ( ) ^
2 3 4 5 6 7 8 9 0 -

Q W E R T Y U I O P +
q w e r t y u i o p =

A S D F G H J K L : [
a s d f g h j k l ; ]

Z X C V B N M ? . ¶
z x c v b n m , . /
```

The characters sacrificed in order to obtain the ^, +, =, [,], and ¶ in the above keyboard were the following: #, ¼, ½, @, ¢, and the comma on the shift. (Except for specialized business use, the fractions ¼ and ½ and the symbols @, ¢, # are rarely needed; the number sign [#], especially, is used little, if at all, in general writing.)

Keyboards have been designed for highly specialized uses, such as foreign languages (including Greek, Arabic, Hindustani, and Hebrew), and for professions using literary and scientific symbols.

Such an intangible as the action of a typewriter is best judged (as is that of a piano) by actual use on the part of the person for whom the machine is intended. The touch of typewriter keys is a complicated matter and the question is not completely disposed of by the feature variously called "touch tuning," "touch selector," or "touch regulator." The person who will actually use the machine should in every case try out the touch of various models before making his final selection. If possible he should try out the machine in his own home, and if the company is willing to allow a trial period of a week or ten days (as was formerly the case) advantage should be taken of this offer, as such a trial will likely bring out any latent defects of a particular machine.

A prospective purchaser of a typewriter, or other mass-produced instrument or appliance should in these times take particular precautions that the article purchased will be in correct working order when delivered or, failing this, that a satisfactory model will be sent to replace it. If possible, this understanding should be covered by a written and signed statement on the order blank or sales slip.

Some of the defects that should be watched for are: Type bars tend to "pile up" through not returning quickly enough to their normal position for the striking position. (This is a particularly annoying fault, which necessitates separating the type with the fingers or the tip of a pencil.) The shift mechanism is subject to easy derangement or maladjustment, as a result of which certain letters, particularly capitals, appear a little above or below the writing line. Letters may at times be unevenly spaced (a fault often erroneously attributed by the salesman to the typist's uneven touch). The left marginal stop may fail to function properly. The paper bail and small rollers which hold the paper against the platen may fail to function with sufficient precision to hold the sheet firmly in place when the writing is close to the bottom of the page. Typewriters with two-color ribbon attachment frequently permit touches of red to appear in the writing when the writing should be black.

Naturally, no one model is likely to have all these defects, but a particular machine may be found that has one or more of them, and whereas some defects are easily corrected by a competent repairman, others are not so readily remedied, especially when present in a portable typewriter, and may cause constant annoyance, not to mention frequent

and costly servicing charges.

As to innovations on portables, even though they may be glowingly described in the advertising as the last word in typewriter perfection, they may ultimately turn out to be a disadvantage, or a designer's mistake—as the automatic choke in automobiles was when it was first introduced. The regular and customary features that have been tried by large numbers of users on several makes of machines are the only ones that the average consumer need concern himself about. "Exclusive features" are primarily to provide sales appeal.

Noiseless Portables

For persons not experienced in the purchase and use of portables, it is probably in order to suggest that extreme caution be exercised in the purchase of any so-called noiseless portable. In any case, the purchase should not be made unless there is to be an ample period of trial, without financial obligation, until the final decision is made. Not only is the so-called noiseless mechanism more delicate and easily put out of order, but repairs may be required more frequently and at much greater cost, especially after initial guaranty period has elapsed. Be sure that when your noiseless portable needs servicing, the repair job is done by a mechanic who is familiar with that particular type of machine through special training and experience. These factors should be kept in mind in reading the listings of noiseless portables in this report.

Typewriter Servicing

Since many of the trained typewriter servicemen are going into more remunerative defense production work, competent typewriter servicing will be more difficult to get in future, a fact which needs to be borne in mind in purchasing a new or used machine and especially in choosing between a portable and a standard typewriter.

Typewriter Tests

Before discussing the machines listed in this report, we wish to remind our readers that unfortunately there is no standard test method available at present for judging typewriters. At best, the judging of typewriters is highly subjective, and even the governmental purchasing agents have to make their decisions chiefly or entirely upon experience and general engineering good sense and judgment.

To the best of our knowledge, the only mechanical testing of typewriters that has been done has been conducted in the service of certain manufacturers or advertising agencies (who saw the value of competitive tests in which only the findings favorable to a given make were reported) as a sales promotion device. Such testing, of course, has been of no practical use to consumers, since the makes and models with which the featured machine was compared by the testing engineer remain an advertising man's secret.

The typewriters listed in this report were given a close examination as to mechanical details and sturdiness of construction by a graduate engineer familiar with typewriters. Except as noted, all the machines listed had "touch control," a device by which the person operating the machine can adjust the key tension to his own touch, by means of a lever. Except as noted, the *Corona* and *Royal* machines listed have basket shift, described in the imaginative terms of the advertisers as "Floating" and "Bob-less" shifts, respectively. While the change-over from the carriage shift to the basket shift may at first involve difficulties, it is probably a step in the right direction. (At present it is not known whether the new design is free from "bugs.") Unless otherwise indicated, prices given in the listings are subject to a tax of 6%, and include carrying cases. The prices given may not in all cases be those in force at the present time. The order of the ratings is alphabetic.

A. Recommended

Corona Silent (L. C. Smith & Corona Typewriters, Inc., Syracuse, N. Y.) $69.50. Differed from the *Corona Sterling* in having a quieter tabulator and shift, and a softer platen, differences which would not seem to warrant the extra $5.

Corona Standard (L. C. Smith & Corona Typewriters, Inc.) $54.50. Essentially the same as the *Sterling* model, but lacked minor convenience features such as tabulator, and lateral paper guide (see text).

Corona Sterling (L. C. Smith & Corona Typewriters, Inc.) $64.50.

Remington Quiet, Model 1 (Remington Rand Inc., Buffalo, N. Y.) $64.50. This is the Remington counterpart of the *Underwood Champion*. ¶Persons who favor light touch or who are used to one of the light-touch machines might find the touch of this model somewhat heavy.

Underwood Champion (Underwood Elliott Fisher Co., 1 Park Ave., New York City) $64.50.

Underwood Universal (Underwood Elliott Fisher Co.) $54.50. Very similar to *Underwood Champion*, but lacked minor convenience features such as tabulator, lateral paper guide, paper fingers (see text). ¶A model of this machine ordered by CR was found to skip spaces badly; it was returned to the dealer and a second machine substituted, which turned out to have the same defect, to an even worse degree. The third model delivered was satisfactory in this respect. (The defect may be one which this make or model is susceptible to developing in shipping, and purchasers should therefore take careful precautions to guard against having to accept a machine with this defect, particularly if they buy by mail and would have no opportunity to give it an actual trial before purchasing.)

B. Intermediate

Hermes "Baby" (E. Paillard & Co., Yverdon, Switzerland; distrib. American Bolex Co., Inc., Typewriter Div., N.Y.C.) $40. This is a very small machine. (2½ in. high x 11 in. square). The weight of this machine (7 lb 3 oz without case) was approximately one-half that of the other typewriters listed. Had a platen of exceptionally small diameter, which might cause difficulty in feeding paper and especially cards; the more so if platen and rollers were worn. Machine appeared well made, within its limitations of size and weight, but might be impractical except for occasional use or for traveling.‡

Remington DeLuxe, Model 5 (Remington Rand Inc.) $54.50. Lacked minor convenience features such as tabulator, lateral paper guide, paper fingers (see text). The noisiest machine of those examined. Type-bar construction and length were such that a less degree of permanence in type alignment would be expected than with other machines. Had "Self-Starter Paragraph Key," permitting automatic indentation of 5 spaces—a rudimentary form of the tabulator device. Machine turned out good work, at least initially. Tentatively rated B.

Remington DeLuxe Noiseless (Remington Rand Inc.) $74.50. Slightly less noisy than the quietest of the "standard" machines. Except for those to whom noise is an important factor, it is believed that the extra cost of $10 for this machine as compared with Model 1 is not justified.

Royal (Royal Typewriter Co., Inc.) Unidentified as to model,* but sold by a cut-price dealer at $29.95. Appeared similar to *Royal Varsity*, listed at $44.50. Lacked some of the convenience features of the more expensive machines listed (paper fingers, tabulator, margin release, "touch control"), but in view of its low price, would appear satisfactory for ordinary use. Back-spacer badly placed, on right. Relatively noisy. Seems a good buy; probably merits A rating for normal home use.‡

Royal Quiet DeLuxe (Royal Typewriter Co., Inc., 2 Park Ave., N.Y.C.) $64.50. 1941 model. Had the carriage shift. May not be widely available. Despite its name, was no quieter than the *Royal Aristocrat* and *Royal Arrow*.

Underwood Noiseless (Remington Rand Inc.) $74.50. This machine, made by the maker of the *Remington DeLuxe Noiseless*, is the same as the *Remington Noiseless*.

* * *

The following machines are tentatively rated B because experience is lacking which would show how the basket shift (recently adopted by the manufacturer) will stand up in use. Otherwise, the machines would merit an A rating.

Royal Aristocrat (Royal Typewriter Co., Inc.) $59.50.

Royal Arrow (Royal Typewriter Co., Inc.) $54.50. Similar to *Aristocrat*, except lacks tabulator and lateral paper guide (see text). Had conveniently designed marginal stops.

‡ Stripped models.

* The manufacturers' circulars are singularly free from information which would permit the various models to be judged comparatively. Sears-Roebuck, Montgomery Ward, and Underwood have set a good example in this respect.

Anti-freeze Lamp for Extreme Weather

[*Continued from page 15*]

since they will burn 24 hours on somewhat less than a quart of kerosene.

Use of such a heater is, of course, not confined to safeguarding automobile water jackets, for one can also be used for any purpose where it is desired to raise the temperature of a small confined space a few degrees. For example, the heater could be used to prevent freezing up of a particularly critical piece of exposed plumbing or water piping on the occasional night when the temperature goes dangerously low. (A farm or country home water-pump, exposed in a cold springhouse or other small outdoor shelter, may often present this type of problem during a period of exceptionally cold weather.)

During the test it was noted that the lamp gave off an odor sufficient to be objectionable if it were used in a garage attached to the house and not tightly sealed off against penetration of fumes.

The heater described was made by the Auto-Motor Heater Co., Laurel Street, Hartford, Connecticut. It is sold by auto accessory stores; Sears, Roebuck & Co. catalog it as 28—7799 at $2.89 plus postage. It should be noted that this device did not bear the Underwriters' approval seal, hence before purchasing, it might be safest to check with your insurance company to determine if its use would adversely affect the fire policy you may have on your car and garage.

Notes on the Current Radio Situation

Serious Problems Developing in Repairs and Replacement Parts

THE GENERAL SITUATION, from the consumers' standpoint, looks very unfavorable. Because of difficulties imposed on repairmen's obtaining of necessary parts and supplies, through administrative red tape and avoidable or needless limitations on production and deliveries, breakdowns and failures of sets are occurring at a much higher rate than normally. These defective sets are, of course, being repaired much less promptly and at a greater cost in time and money than would otherwise be necessary.

It has been estimated that 10 percent of the 60,000,000 sets in use will be out of commission by June 1943. One writer considers that if the war should continue for three or four years more, the majority of American homes may be without a radio, unless the bureaucrats quit talking about the problem and really go to work on it (as they finally did, after much time and public and congressional pressure, on the problem of providing for production of synthetic rubber for tires).

One symptom of the growing stringency in the supply of radio receivers and parts is in the disappearance of radio sets and amplifiers from secondhand stores and radio-junk dealers. Material of this sort is being gobbled up by those whose sets have gone bad or are giving trouble, and too, a large number are being bought by schools and others teaching the fundamentals of radio for the Army and other war services. Through this development, many an old-fashioned set that would in ordinary course have ended on the junk pile, will be made to "do its stuff" again in reconstructed form on the workbench of a wartime learner of the radio-servicing trade.

Recently steps have been taken to standardize certain replacement parts in order to simplify problems of manufacture and distribution during the war period. For example, there used to be over 2000 varieties of volume controls, and it is proposed that these should be cut to eleven. Eight capacitors (condensers) of a certain type will take the place of over 300 formerly made.

Transformers are a particularly difficult problem because of their use of copper, and there will be serious reductions in the quality and availability of these; all transformers of better than poor or mediocre quality will be unobtainable—in large part this is the case already. Audio transformers were little used in modern commercially marketed sets (even those selling at very high prices) because in spite of their favoring the best type of reproduction and less need for repairs and adjustments, use of transformers in an amplifier made the radio cost a dollar or two more to build than one whose circuit was based on certain other common types of components.

Due to this cost-saving by manufacturers in recent years, most radio set owners and repairmen will not suffer greatly from the shortage in the audio-transformer field, except as it affects the output transformer (which is the combination of coils and connections through which energy is transferred from the audio-amplifier to the speaker). The low grade of present production of output transformers will be evident to practiced ears in certain deficiencies in reproduction of fine music (whether by radio or from records) when a radio set of high quality has had a replacement unit installed at this point.

In connection with the difficulties noted, it has been announced by the government that it wishes "one radio receiving set per home for the war period," yet in spite of the rapid disappearance of new radios from dealers' stocks, the general impression is that no great progress has been made in any program for keeping the home radio sets now in use in continued good operating condition, and no provision, it is said, will be made for repairs to the nearly 10,000,000 automobile radios owned by ultimate consumers. So far as new sets are concerned, some consider that they will be off the market by March; others hold that at least a few will be available through 1943. Some stores are dusting up and refurbishing secondhand radio receivers and selling them as new.

This is a bad time to buy midget and other small sets (usually advertised as "ac-dc" receivers), for their tubes have a way of burning out with unusual frequency and will be hard to replace; they also involve other specially trying servicing problems that would be bad enough in normal times, but may be unbeatable in a period of wartime shortages of parts and of the services of expert repairmen.

Difficulties are developing with tubes. Some types are

definitely scarce, and the situation will grow worse before it improves. Beginning soon, consumers will be required to turn in an old tube when buying a new one, and it is said that the number of tube types available will be reduced to fewer than 120 as compared with the 700 formerly produced. It is known that the 120 types will not satisfy the needs of all consumers who have sets that are not of recent production. For this situation the set designers and manufacturers are largely to blame, for they have multiplied the differences in tube types, shapes, and bases beyond all reason in the past six or eight years, thus imposing a serious burden not only upon the consumer (who will now sometimes be unable to find a tube that will suit his set) but upon the dealers and servicemen, particularly in small cities and towns, who are almost never able to stock tubes in sufficient variety to satisfy their customers' needs.

There will, of course, be a shortage, if not an absolute lack, of batteries available for the 3,000,000 portable radios.

There has been some indication that "farm type" receivers, however, would be taken care of under government limitation orders—though one would not be justified in placing full reliance on any such expectation. Since certain other types of battery radios are adapted to being operated from 110-volt power connections usually available in the home, the combination sets will not be a total loss. Conversion to socket-power operation of sets meant primarily for use with batteries, will probably not be practicable as a matter of cost; this job although superficially simple, may turn out to be very difficult or impracticable in any given case.

Competent people in the field of radio servicing are going to be very, very scarce; the demands from war industries and from government agencies themselves for the services of everyone possessed of even a rudimentary knowledge or education in this field, is extraordinarily high at this time, and may continue for years. There will be thousands of openings for newcomers in this field to take care of civilians' needs for radio repairs and servicing, and it seems reasonable to believe that training in radio theory and practice is more likely to equip one for an interesting and needed type of work after the war than almost any other type of activity that could be mentioned.

Off the Editor's Chest

[*Continued from page 2*]

scriber lives in the middle of a rich and diversified farming region, his family will continue to be supplied with most of their accustomed needs, but millions of others, certainly, will not be so fortunate.

After seeing one after another of the complicated parts of our system for distribution of foodstuffs "go haywire" or even break down during the past year, wise consumers will give considerable study to the problem of securing an adequate, varied, well-balanced food supply for their families during the months or years ahead. They will look upon their problem as one much like that faced by their pioneering ancestors in America's early days. The average city dweller can scarcely take to raising rabbits, squabs, or chickens in his back yard to supplement his soon-to-be-rationed meat supply; in some cities and suburban towns, zoning laws and regulations would not even permit him to go into small-scale livestock farming. Yet most consumers can make diligent inquiry to locate farmers in the nearby countryside who may be able to help them with their problem. City pantries and refrigerators are scarcely large enough or cool enough to store up any considerable stock of vegetables and fruit, but perhaps some farmer or frozen-food-locker operator can be engaged to do the job. The urban dweller who has suitable storage space available for food should see to it that it is well filled during the harvest season so that the limited stocks of canned goods may be at the disposal of those who otherwise will simply be unable to provide for their needs.

Several public officials who have been responsible for keeping up the food supply for a number of large public institutions have expressed dismay at the lack of realization on the part of the general public of the seriousness of the situation. This lack of awareness may be due to the fact that for so many years we have been a land of overabundance. Indeed, not so many months ago we were assured by responsible officials that there was plenty for all of all necessities, and many luxuries. So long as the public believes that for the most part their sacrifices are for our own armed forces, people may grumble, but there should be little real objection, although there is some disposition among certain journalistic quarters to criticize the Army as wasting materials and productive capacity, and building up too large stock-piles. One informed trade journal editor prophecies that before the end of 1943 the average American's diet will be only a little above the subsistence level, because feeding the world is part

of our global war strategy. He also predicts "the most unholy howl ever heard from the American people."

There is no doubt that all well-disposed people are in favor of helping the unfortunate and feeding the starving, wherever and whenever the help can be effectively provided. Americans are notoriously kind-hearted and readily persuaded to give things away. Witness the tremendous total of college scholarships and endowments and the numerous foundations in this country set up by the surplus wealth of men who have made their fortunes in American business enterprise. The Lend-Lease bill was passed with the approval and acquiesence of people who have been conditioned by a long period of governmental publicity to believe that there could be no bottom to our resources, and that it was only decent charity to give our surplus to those who were in need, everywhere. As it becomes apparent that the bottom of our barrel is in sight and that the flow of goods which previously had kept it running over has dwindled to a trickle, there is arising a disposition to question the sending abroad of items which are particularly scarce in this country. The public and the Congress are also beginning to raise sharp questions regarding mismanagement and waste in governmental controls of production —also the needless, often wanton interference with the normal mechanics of trade.

Most of us have in our lives come across the case of a child whose mother is so insistent that he be cooperative and socially-minded that she will force him publicly to give up a cherished toy to a little playmate who takes a fancy to it. The result all too often is an intense dislike for the playmate in question, which manifests itself in ill-feeling and bickering, if not actual fist fights when the mother's back is turned. There is no reason to think that grown-ups react so very differently, though their reactions may be manifested in less simple fashion.

The censorship surrounding the actual amounts of food and other supplies being shipped out of the country on Lend-Lease and the terms under which they are being furnished have fostered the growth of many rumors, according to press reports. Indeed, even if the actual figures on foods and other Lend-Lease material turned out to be smaller than many have assumed, it is quite probable that there would be a tendency to ascribe the blame for shortages of desirable foodstuffs on the home front to too large shipments to our Allies or too free stock-piling of supplies for future shipments. People have a way of looking for a scapegoat, particularly one far away from home. Unfortunately, those who are for "all-out rationing" of everything do not realize that they are employing the worst possible method of dealing with the problems of scarcity if they wish to establish a state of good international relations or what is called an "international outlook."

Indeed, the ration-everything-now people are fostering a return to complete isolationism as surely as if they were planning it that way. It takes time and skillfully presented propaganda to convert to rationed scarcity the millions of people who were assured by those high in government, political, and war agencies that we in this country were to be provided bountifully with *both* guns and butter, and that we Americans were to wage war without giving up our "social gains." Social gains to many people mean butter on the table, bacon and eggs for breakfast, steak or roast beef for dinner, and coffee three times a day, with sugar and cream if they want it.

The real experts who had some knowledge of the production and distribution problems involved in waging war and a keen appreciation of the wastes and slack which must be taken out of the consumer economy to support a war effort were well aware that a good deal of giving up and going without would be necessary sooner or later. They knew too that on the food front the wise and prudent policy was one of helping people as consumers to be as nearly self-sufficient as possible. Consumers, however, who are not in a position to do this will undoubtedly experience considerable need for reorienting their ways of living.

It is just possible that public criticism may bring about better management of our food production and distribution—management by wiser men, accustomed to save and stint themselves and their businesses as well as to demand that others shall do so. But you can't eat ration books or OPA forms and even if some qualified executives should by a miracle be pulled out of our reserve stock of national planners, it takes time to increase production of beef cattle, to build up again dairy herds that have been sold for lack of help and farm appliances, and get the necessary new machinery and repair parts into the hands of the farmers who normally transport food to the local butcher shops and grocery stores. Wise consumers must look out for their own food needs so far as possible so that commercially canned fruits, vegetables, and other processed foods can be supplied in ample quantities to the armed forces.

Let it be recorded here, however, for those who hope to bring about a better world through a post-war setup of good international relations, that all their speeches, pamphlets, books, discussion groups, traveling teachers and speakers, and special propaganda organizations will be so much wasted effort unless they begin now—at once—to permit businessmen to function efficiently and to use every technique known to modern farm, mine, and factory *mass production*, so highly perfected in this country, to supply civilians and the armed forces with food and other necessities. Beyond that, the complex red tape of filling out forms must be simplified and there must be less wasting of gasoline, tires, and time to stand in line at rationing board offices.

Wartime Rackets—"Gas-Savers"

LIKE THE SICK man who is tempted to try any remedy that promises help, many automobile owners, aware that they will not be able to secure as much gasoline as they need for essential purposes, will (if uninformed) fall easily for the wily arguments of the sellers of various nostrums and gadgets now promoted to increase miles per gallon.

Much ingenuity is shown in these so-called inventions, although most of them are old nostrums revived or renewed. The forms they take vary from pills or chemicals to be added to the gasoline, to spark intensifiers and various attachments to be connected to the carburetor or exhaust. In every case fantastic claims for performance or saving will be made, and plausible arguments of a pseudoscientific nature may be made to persuade the doubtful.

The average consumer, if he could read the claims for several devices at the same time, would often arrive at the conclusion that such claims had no practical relation to reality or to scientific knowledge. Unfortunately, the average automobile owner is offered only one of such gadgets or nostrums at a time, and thus doesn't see the common thread of deception that runs through them all; neither does he realize that when products of merit are produced in any technical field so important as automotive engineering, they will be discussed, perhaps for months on end, in technical and scientific journals, and will not find their first appearance in the hands of quacks or charlatans.

Every now and then a new contrivance appears on the market which claims to be entirely different and able to produce a drastic improvement or saving of some sort. Then a number of our subscribers, having more faith than they should perhaps in human nature, at once write to learn whether to invest $1 to $5 or even more in the new gadget. The present time has brought a perfect flood of these, and many contrivances that were quiescent in normal times because gasoline saving was not so important then, have become active in the advertising columns and in the hands of personal salesmen.

Several of these inventors of gas-saving devices have been in trouble with or had their pretensions stopped by government agencies. Among these is the "Super-Charging Gas-Miser," alleged to give "more power, more pep," increase the life of the engine, and, of course, alleged tests were drawn upon to prove the maker's claims of "greater mileage, more power, more pep, and a smoother running car." The Federal Trade Commission reported dryly that "the device did not possess the merits and qualities claimed by respondent"; that "it was incapable of super-charging an automobile engine" and that "its use resulted in no saving of gasoline or oil"; that "it did not increase the mileage, power, speed, or pep of automobiles." (Anyone interested to look into the "Gas-Miser" further would find there were other things it didn't do, too.)

As early as 1938 (and again in June 1942), the F.T.C. got around to the Vacu-matic Carburetor Company and complained against their device, also one in that large class of devices designed to be attached to the carburetor. This was claimed to save up to 30% in gasoline consumption, give more power, quicker pickup, and faster acceleration. As sometimes happens, the F.T.C.'s action did not seem to be very effective, for the product was still being advertised as late as Jan. 1943.

One of our subscribers wrote that he was interested in obtaining information on the Vacu-matic device, which, he went on to say, "a friend of mine has installed on his car and has used for over 5000 miles with very satisfactory results, and without any injury or drawback to the operation of the car." This is mentioned because it is typical of many consumers' reaction to such gadgets. No one can know exactly what is meant by "with very satisfactory results," or why there should be an advantage in using something merely because it does not cause injury or drawback to the operation of the car. Only the "satisfactory results" that can be expressed in numerical terms of net saving on a particular car under stated conditions are worthy of the consumer's consideration.

Sometimes when the gadget of this general sort is applied, an actual economy is obtained and the consumer very easily falls into the assumption that the improvement was due to the addition of the device rather than something else that happened at the same time. The majority of these devices call for some change or adjustment that should have been made anyway—usually one which provides a leaner mixture. *It is this adjustment* which provides the increased mileage; the gadget is simply the vehicle in which the "inventor," who

sold the idea of an improved carburetor adjustment, rides to prosperity.

Other devices that have been proceeded against by the Federal Trade Commission (in addition to those already mentioned) and that have been alleged by their promoters to save fuel or improve engine performance in some way are: *Whirlgas Supercharger, Rulo-Automatic Injector, Diamond Fuelizer, Stransky Vaporizer, Stromberg Master Condenser, Whirlwind Vaporizer, Super-Fyre Amplifying Unit.*

One more recent invention is the *Vacudex*, a device to be attached to the exhaust pipe of an automobile, and sold even by big city stores that have a high reputation for fair dealing. Claims for this "gas-saving" wonder included 12 to 30 more miles from every tankful of gas (this would be one or two miles more per gallon), adds pep to the motor, and gets better pick-up. It was further claimed to have been tested by experts and engineers from leading colleges with proven gains up to 30%. (The last type of claim of tests by technical experts, when the test data are not shown or made available upon application, is always a cause for suspicion.) In this case, a request to the manufacturer for a copy of the test report was turned down on the ground that the manufacturer had agreed that the names of the colleges and universities would not be used in any sales promotion work. This would perhaps have sounded plausible were it not for the fact that the literature the manufacturer enclosed with his letter actually did use the name of several colleges (Columbia, New York, M.I.T., Yale) to lend credence to his claims, *but did not state what they found or reported. Vacudex* is supposed to accomplish its up to 30% savings in gasoline consumption (very different from the claims of one or two miles more per gallon already mentioned) by "eliminating wasteful back pressure" but in truth and in fact, present-day mufflers are so designed that there is only slight back pressure. That pressure, even if it could be entirely eliminated, could hardly reduce fuel use (especially under the new low-speed conditions) to a degree that would be detected by other than refined engineering laboratory methods. Another device working on the same principle as *Vacudex* is the *Gasconomy*, claiming to increase gas mileage 10 to 20%.

As to the dopes in the form of pills or chemicals, one such product, selling for 25c for a small bottle, when analyzed was found to be kerosene with perfume and coloring added. A trick car was used for demonstration purposes. It is significant to note that the consumers who bought this product were paying at the rate of $8 per gallon for kerosene costing 10c or 12c. Records of the U. S. Patent Office indicate that more than 3000 patents have been issued on mechanical and chemical gasoline savers; thus observing consumers can see that the inventors are more distinguished for being busy than for being qualified at their tasks.

In conclusion, let every consumer be advised there are no pink or other pills or trick gadgets that will appreciably boost gasoline mileage or increase engine power and performance. Correct driving techniques and proper adjustment of ignition and carburetor (float level, lean mixture, and minimum accelerating pump setting), and a clean air cleaner are the only effective means known for saving gasoline, aside from the fundamental modification of the engine which reduces the number of cylinders effectively operating (as proposed by engineers of the Sun Oil Company) which we have discussed in CR's Nov. and Dec. 1942 BULLETINS.

Corrections and Emendations to Consumers' Research Bulletin

Molasses Col. 50 ACB '42-'43 Delete listing of Unsulphured, "Open Kettle" Molasses (The Great Valley Mills, Paoli, Pa.) The manufacturer is unable to fill orders now, due to government-restrictions on supplies of shipping containers and shortage of help.

Coffee Grinders Col. 363 ACB '42-'43 Delete listing of *Aromatic Crystal Coffee Mill*, 9010. Its manufacture has been discontinued for the duration of the war. A limited number of coffee grinders. but at the high price of $7.95, has been available from Lewis & Conger, 6th Ave. & 45th St., New York City. Their stock of cheaper hand grinders, at $2.25, has been exhausted.

Fireplace Grates, Page 26, Col. 3 January '43 The price of the grates sold by Dreifus and Co. has been changed from $14 and $16 to $10 in accordance with OPA price regulation.

A number of new types of grates are now being offered, including one-piece and sectional grates made of ceramic material or tile. Fireplace grates made of relatively thin sheet metal should probably be avoided as of unsatisfactory durability. Also before buying a ceramic grate, give consideration to relative coal-holding capacity, for some are distinctly skimpy in that respect and will require constant tending.

Phonograph Records

By WALTER F. GRUENINGER

EDWARD WALLERSTEIN, president of the Columbia Recording Corporation, recently told a group of dealers that Columbia delivered over twice as many *Masterwork* and popular records during the first ten months of 1942 as it did during the same period in 1941. Moreover, the present rate of sales is probably going to hold in 1943. At that, Columbia is meeting only 40% of the demand for its records.

Mr. Wallerstein admitted that the surface of the Columbia *Masterwork* record has deteriorated a trifle though not as much as that of the popular record.

VICTOR hopes to maintain in 1943 "a good distribution of new records of good quality." The selection will be smaller, although diversified, so production can be concentrated on fast selling items. Scrap records are urgently needed, but since no one seems to be offering the consumer more than 3 cents a disc, America's attics still house millions of pounds of old records.

LAST YEAR'S royalties on recordings made by the Boston Symphony Orchestra in previous years totaled $82,365. The orchestra was not permitted to make any new recordings last season because Petrillo cracked down on their non-unionism. That was a forerunner to his mandate of last summer permitting no union musician to make commercial records, and that prohibition is now in effect.

Editor's Note: Some of the following records were listed for earlier release, but Mr. Grueninger reports that a number of them were not generally available for several months after the announced release date.

Ratings of Phonograph Records

Prices Include Excise Tax

Key: AA—highly recommended; A—recommended; B—intermediate; C—not recommended.

ORCHESTRA

Bach: *Air from Suite No. 3 for Orchestra* & *Bourée from Suite No. 3* for Unaccompanied Cello & **Beethoven:** *Minuet in G* & *Country Dance No. 1.* Columbia Broadcasting Symphony under Barlow. 2 sides, Columbia 71411. $1.05. What purpose this record is intended to achieve excepting to introduce Bach and Beethoven to the uninitiated through melodious, rhythmic trifles is difficult to imagine. The experienced collector will shun it. — Quality of Music: B; Interpretation: B; Fidelity of Recording: A

Barber: *Adagio for Strings.* NBC Symphony Orchestra under Toscanini. 2 sides, Victor 11-8287. $1.05. A slow movement which suggests a modern imitation of Bach. — B; AA; A

Grieg: *Peer Gynt Suite No. 2.* Indianapolis Symphony Orchestra under Sevitzky. 4 sides, Victor Set 902. $2.62. The less popular of Grieg's two suites of incidental music to Ibsen's Peer Gynt includes *Ingrid's Lament, Arabian Dance, Return of Peer Gynt, Solvejg's Cradle Song.* Best recording of this suite. — B; AA; A

Ravel: *Daphnis and Chloe—Second Suite.* Cleveland Orchestra under Rodzinski. 4 sides, Columbia Set X230. $2.62. Satisfactory as a performance and as a recording. But this modern ballet music, chiefly distinguished for its color, is better performed by the Boston Symphony Orchestra on Victor 7143/4 and more richly recorded by the Philadelphia Orchestra in Victor Set 667. — B; A; A

Shostakovich: *Symphony No. 5.* Cleveland Orchestra under Rodzinski. 10 sides, Columbia Set 520. $5.77. There is little to choose between this excellent set and the Stokowski-Philadelphia recording, Victor Set 619. The symphony is often considered Shostakovitch's most successful—certainly better than his much publicized but not yet recorded No. 7. The conception of the conductors differs, although Rodzinski regrettably cuts the finale in an attempt, I judge, to keep the set to 10 sides against Stokowski's 12. The recording is commendable in both cases. — AA; AA; AA

Strauss: *Don Quixote.* Pittsburgh Symphony Orchestra under Reiner. Piatigorsky, cello soloist. 10 sides, Columbia Set 506. $5.77. Frequently regarded as Richard Strauss' most successful tone poem. Composed in variation form. This set, while satisfactory, neither matches the performance nor the fidelity of Victor Set 720. Victor's solo cellist, Feuermann, who a few months before his death was soloist with a symphony orchestra with which I played, impressed me as the peer of all modern cellists except Casals. — AA; A; A

CONCERTO

Beethoven: *Piano Concerto No. 4.* Schnabel (piano) with the Chicago Symphony Orchestra under Stock. 8 sides, Victor Set 930. $4.72. Widely regarded as the greatest piano concerto. This recording was made during the summer of 1942, a few months before the death of Conductor Stock. Schnabel fully understands the superb music and gets excellent support from the orchestra. Compared with the recording of this work Schnabel made nearly a decade ago which was issued as Victor Set 156, the engineers have given the new set more bite, the orchestra more prominence, and they have included a barely discernible echo. As a performance the Chicago Symphony gets the edge, today. These sets lead the list for the Fourth. If you have Victor Set 156, however, you certainly need not replace it. — AA; AA; AA

CHAMBER & INSTRUMENTAL

Dvorak: *Humoresque* & **Schumann:** *Traumerei.* Milstein (violin). 2 sides, Columbia 17337. 79c. Overplayed encores to me, yet favorites with millions. Competently performed. — B; AA; AA

Haydn: *Divertimento.* Piatigorsky (cello). 2 sides, Columbia 11830. $1.05. Light, pleasing music played to a turn by one of the foremost living cellists. — A; AA; AA

Mignone: *Four Compositions.* Mignone (piano). 4 sides, Bost Folder BA2. $3.67. A Brazilian plays four of his light works, which are marred by inferior recording and excessive surface noise. — B; AA; C

Mozart: *Quintet in G Minor* (K516). Budapest Quartet and Katims (viola). 8 sides, Columbia Set 526. $4.72. A passionate, profound string quintet played flawlessly. Although recorded last spring the occasional shrillness and prominence of first fiddler Roismann was unlike the performance I heard at two Budapest Quartet recitals within a week after the release of this set. Overall, however, best recording of this work. — AA; AA; B

Schubert: *Trio No. 1 (Op. 99).* Heifetz, Feuermann, Rubenstein (violin, cello, piano). 8 sides, Victor Set 923. $4.72. A melodious, ingratiating work that appeals to nearly all who like string music given a slick, virtuoso performance. Supersedes all other recordings. — AA; AA; A

VOCAL

French Opera Arias. Swarthout (mezzo-soprano). 4 sides, Victor Set 925. $2.62. Miss Swarthout sings Siebel's *Aria* from *Faust*, Stephano's *Aria* from *Romeo et Juliette, Connais tu le Pays* and *Je connais un pauvre enfant* from *Mignon.* I was present at the recording session which produced these discs, as reported in CONSUMERS' RESEARCH BULLETIN, April 1942, and can attest to the care exercised by performers and engineers to give consumers a commendable set. First-rate in every respect. — A; AA; AA

Ratings of Motion Pictures

This section aims to give critical consumers a digest of opinion from a number of reviews, ranging from the motion picture trade press to Parents' Magazine which rates motion pictures not only on their quality as entertainment, but on their suitability in various aspects for children.

It should be emphasized that the motion picture ratings which follow do not represent the judgment of a single person but are based on an analysis of the reviews appearing in some 20 different periodicals.

The figures preceding the title of the picture indicate the number of critics who have been judged to rate the film A (recommended), B (intermediate), and C (not recommended). The sources of the reviews are:

America, Box Office, Chicago Daily Tribune, The Christian Century, Cue, Daily News (N.Y.), *The Exhibitor, Harrison's Reports, Liberty, Mademoiselle, Motion Picture Herald, Motion Picture Reviews* (The Women's University Club of Los Angeles), *National Legion of Decency List, Newsweek, New York Herald Tribune, New York Times, Parents' Magazine, Release of the D.A.R. Preview Committee, Successful Farming, Time.*

Audience suitability is indicated by "A" for adults, "Y" for young people (14-18), and "C" for children, at the end of each line.

Descriptive abbreviations are as follows:

adv—adventure
biog—biography
car—cartoon
com—comedy
cri—crime and capture of criminals
doc—documentary
dr—drama
fan—fantasy
hist—founded on historical incident
mel—melodrama
mus—musical
mys—mystery
nov—dramatization of a novel
rom—romance
soc—social-problem drama
trav—travelogue
war—dealing with the lives of people in wartime
wes—western

A	B	C		
1	11	2	**Across the Pacific**	*war-mel A*
—	6	6	**A-Haunting We Will Go**	*cri-com AYC*
1	4	—	**American Empire**	*wes-dr AY*
—	3	2	**Andy Hardy's Double Life**	*com AYC*
1	9	1	**Apache Trail**	*mus-wes AYC*
1	4	2	**Arabian Nights**	*mel A*
—	1	6	**Army Surgeon**	*war-mel AY*
1	7	2	**Avengers, The**	*war-mel AY*
14	2	—	**Bambi**	*car AYC*
—	3	—	**Bandit Ranger**	*mus-wes AYC*
—	4	—	**Battle Cry of China**	*doc AY*
—	4	—	**Battle of Midway**	*doc AY*
—	2	2	**Behind the Eight Ball**	*mys-mus-com A*
—	4	1	**Bells of Capistrano**	*mus-wes AYC*
—	5	6	**Berlin Correspondent**	*war-dr A*
1	10	2	**Between Us Girls**	*com AYC*
—	2	1	**Billy the Kid in Sheriff of Sage Valley**	*wes AYC*
4	8	2	**Black Swan, The**	*mel AYC*
—	3	5	**Boogieman Will Get You, The**	*com AYC*
—	2	5	**Boss of Big Town**	*mel AYC*
—	1	2	**Boston Blackie Goes Hollywood**	*cri-com AYC*
—	3	2	**Bowery at Midnight, The**	*cri-mel A*
—	3	7	**Busses Roar**	*war-mel A*
—	9	3	**Cairo**	*war-mus-mel AYC*
—	5	—	**Call of the Canyon**	*mus-wes AYC*
—	3	5	**Careful, Soft Shoulders**	*war-mel A*
3	10	—	**Casablanca**	*war-mel A*
—	5	6	**Cat People**	*mel A*
—	2	3	**China Girl**	*war-mel A*
—	3	3	**City of Silent Men**	*mel AY*
2	2	—	**Commandos Strike at Dawn**	*war-mel AY*
—	6	4	**Counter Espionage**	*war-mys AYC*
—	—	4	**Criminal Investigator**	*mel A*
—	—	6	**Danger in the Pacific**	*mel AY*
—	3	2	**Daring Young Man, The**	*war-com AYC*
—	3	—	**Dawn on the Great Divide**	*wes AY*
—	4	—	**Deep in the Heart of Texas**	*mus-wes AYC*
—	10	4	**Desperate Journey**	*war-mel AYC*
—	4	5	**Destination Unknown**	*war-mel A*
—	3	4	**Devil with Hitler, The**	*war-com AYC*
—	5	1	**Dr. Gillespie's New Assistant**	*dr A*
—	5	4	**Dr. Renault's Secret**	*cri-mel A*
—	5	2	**Enemy Agents Meet Ellery Queen**	*war-mel AYC*
—	5	5	**Escape from Hong Kong**	*war-mel AYC*
—	8	2	**Eyes in the Night**	*war-mys AYC*
—	3	4	**Eyes of the Underworld**	*cri-mel A*
—	6	2	**Falcon's Brother, The**	*war-mys A*
—	8	1	**Flying Fortress**	*war-mel A*
4	7	1	**Flying Tigers**	*war-mel AYC*
1	12	2	**Footlight Serenade**	*mus-com A*
1	11	2	**For Me and My Gal**	*war-mus-com AYC*
—	2	3	**Foreign Agent**	*war-mus-mel A*
1	5	5	**Forest Rangers, The**	*mel AY*
—	—	—	**Gallant Lady (See Prison Girls)**	
2	11	—	**Gentleman Jim**	*biog AYC*
—	8	—	**George Washington Slept Here**	*com AYC*
—	7	3	**Get Hep to Love**	*mus-dr AYC*
—	6	6	**Girl Trouble**	*com A*
—	6	3	**Give Out, Sisters**	*mus-com A*
1	5	5	**Glass Key, The**	*cri-mel A*
—	2	2	**Gorilla Man, The**	*war-mel A*
—	4	5	**Great Gildersleeve, The**	*com AYC*
—	2	3	**Great Impersonation, The**	*war-mel A*
—	4	3	**Halfway to Shanghai**	*war-mel A*
—	6	—	**Happy Go Lucky**	*mus-com A*
—	5	3	**Hard Way, The**	*mus-dr A*
2	2	—	**Heart of the Golden West**	*mus-wes AYC*
—	3	5	**Hello Annapolis**	*com AYC*
—	3	5	**Henry Aldrich, Editor**	*mel AYC*
—	3	—	**Henry Aldrich Gets Glamor**	*com AYC*
—	3	8	**Here We Go Again**	*com AYC*
—	4	4	**Hi, Neighbor**	*mus-com A*
—	3	6	**Hidden Hand, The**	*mys-com A*
—	6	4	**Highways by Night**	*cri-com A*
—	2	4	**Hillbilly Blitzkrieg**	*war-com AYC*
—	2	1	**Hitler's Children**	*war-dr A*
3	13	—	**Holiday Inn**	*mus-com AYC*
—	9	5	**I Married a Witch**	*com A*
—	6	1	**Ice-Capades**	*mus-com AYC*
—	10	4	**Iceland**	*mus-com A*
8	3	—	**In Which We Serve**	*war-dr A*
—	6	6	**Invisible Agent**	*war-mel A*
—	4	2	**Isle of Missing Men**	*war-mel A*
—	3	3	**Jacare**	*animal AYC*
—	2	1	**Johnny Doughboy**	*mus-com AY*
2	8	2	**Journey for Margaret**	*war-dr A*
—	5	4	**Journey into Fear**	*war-mel A*
—	3	2	**Jungle Siren**	*mel A*
—	2	1	**Junior Army**	*dr AYC*
—	5	4	**Just Off Broadway**	*cri-dr A*
1	2	2	**Keeper of the Flame**	*war-nov A*
—	3	1	**King of the Stallions**	*wes AYC*
—	7	—	**Klondike Fury**	*mel A*
—	4	1	**Lady from Chungking**	*war-dr A*
—	1	2	**Laugh Your Blues Away**	*com AYC*
—	8	4	**Life Begins at 8:30**	*dr A*
—	3	1	**Little Joe, The Wrangler**	*wes AYC*

[Concluded on page 31]

The Consumers' Observation Post

[Continued from page 4]

SHOES LINED WITH AN ALL-RAYON FABRIC are scheduled to make their appearance next summer. They are designed to make the shoe feel comfortable on the foot when worn without stockings.

* * *

THE FEDERAL STANDARD FOR CANNED PEAS has been amended to permit the use of traces of added chemicals—sodium carbonate, calcium hydroxide, or magnesium hydroxide—for the purpose of retaining the natural green color of the peas. Looks like another case of governmentally-encouraged adulteration.

* * *

WATCH YOUR CAR BATTERY CLOSELY, particularly these cold days. The curtailed, intermittent, slow-speed driving now required runs down batteries very quickly. Unless they are periodically re-charged, they may have a short life or cause hard starting on cold days. Such driving also tends to increase difficulties, more pronounced with certain makes, of sticking valves, gum formation, and motor corrosion. For the utmost in gasoline mileage, keep the spark plugs and distributor checked, cleaned, and correctly set.

* * *

THOSE WHO MUST EAT IN RESTAURANTS will find some very practical advice to be derived from recent work of Dr. Robert S. Harris, of Massachusetts Institute of Technology. All who wish their full measure of vitamins in the food they eat should pay attention to two important things: first, that the restaurant uses superior cooking and serving technics in preparing fresh vegetables continually so that the late-comers receive freshly cooked vegetables; and second (particularly when eating in restaurants that do not follow this desirable practice in their cookery), plan to eat early, so that the food will not have stood on the steam table for a long time. The loss of vitamin C from vegetables during cooking was 45 percent; and the loss of thiamin (B_1), 35 percent. After the vegetables had been held on the steam table, there was a further loss, so that only about one-quarter of the original vitamin content reached the consumer.

[Concluded on page 30]

What Subscribers Write:

From California: *"The service you can give during this war condition has an extra value, I feel. I am enjoying the material I have recently received very much, and it's just what I wanted to know about."*

From New York State: *"I enclose my cheque for $3.00 to re-subscribe for my husband's Consumers' Research. I consider it a most valuable bulletin—and always a most interesting one. No home should be without it—it has taught me so much."*

From Texas: *"We not only find Consumers' Research most interesting but we rely on its information in making our purchases. Naturally at present more than ever, we do not care to be without the Bulletins."*

From Wisconsin: *"Out of the nine couples who have picked up CR with a consuming interest, seven have ordered it for themselves. I ascribe this to the fact that most of my friends are poor enough and intelligent enough to know that CR, once it has been brought to their attention, is just what they need for themselves."*

Please Give to Friends

who are interested in concrete practical advice to help them with their buying problems the handy subscription blanks found on the next page. All $3 subscriptions include the current Annual Cumulative Bulletin.

From Washington, D. C.: *"We saved several times the cost of this subscription recently when our vacuum cleaner needed repairing. One member of the family took it to a place claiming to handle the particular make. It was badly broken, according to them and would cost $23.00. After looking up the information in C.R. handbook, I took it to the factory representatives who had it repaired at the factory for $7.00. It works now."*

From New Jersey: *"I have previously been a subscriber to your publication but for lack of reading time I had to give it up. Now, however, I am giving up other things in order to read the Research, because I feel it will be a necessity under the present circumstances."*

PYROGALLIC ACID OR PYROGALLOL (popularly known as "pyro," among photographers who still use this developer in their work) is becoming scarce and high-priced. This well-known and dependable developer is still made in the old-fashioned way from gall nuts, most of which came from China. Were "pyro" to be made synthetically, the starting point for manufacture would probably be benzol or phenol, both of which are "critical" materials, unavailable for non-military uses. It appears quite likely that other common developers will be scarce in the near future, and the photographer will then have to go back to some time-tested developing agents which many today would regard as primitive.

* * *

THE SENDING OF AIR MAIL LETTERS AND PACKAGES to points outside the Western Hemisphere by civilians has been severely limited, according to report. The step is made necessary by the great increases in amounts of foreign mail other than letters that are being sent by air. Letter mail weighing not in excess of 2 ounces per letter, will now go abroad by air only to the extent that space is available. It may be that this ban will be extended to Alaska, and it already affects mail to Hawaii.

* * *

THE MOST DISLIKED FOOD IN THE ARMY, according to report, is spinach. The Army's instincts are sound, for recent discoveries have indicated that spinach is not the specially fine food that dietetic advisers once asserted it to be. It now turns out that the calcium, for which spinach was chiefly being eaten, is not available to the body. A high oxalic acid content in spinach interferes with the utilization of the calcium; for this reason the water in which spinach is cooked should not be used. Spinach not only does not supply calcium in a form that can be utilized by the body (it was long supposed to be an excellent source of both calcium and iron), but keeps the body from properly utilizing much of the calcium from other foods.

* * *

SUBSTITUTES: Glass. Successful efforts are being made to let glass take the place of scarce metals and accessories made of plastic. Glass is being satisfactorily used for handles, covers, percolator baskets, percolator pumps, and even glass floats are now available for toilet flush tanks, to mention just a few of the new uses.

Milk. Powdered skim milk or "dry milk solids" will in time make their appearance on grocery store shelves in extensive quantity. Chief advantage is that the bulkiness of fluid milk, its perishability, and the transportation problems are eliminated by the new method of marketing. The dry skim milk has the advantage of being storable and ready for instant use and contains all the protein found in fluid milk. An excellent little pamphlet containing information about the food values and giving recipes is entitled "Dry Skim Milk—Its Value and Use"; it may be obtained without charge from the University of Minnesota Agricultural Extension Service, University Farm, St. Paul, Minn.

Make-overs. The soldier who leaves behind him a partly worn-out suit may be surprised on his return to discover it made over for one of the women folk or the children. Women who are skilled at sewing will find interesting reading in the pamphlet, "Make-overs from Men's Suits," Leaflet No. 230, available from the U. S. Department of Agriculture, Washington, D. C.

for new subscribers

Consumers' Research, Inc., Washington, N. J.

☐ I enclose $3 (Canada & foreign $3.50) for one year's subscription to the Consumers' Research Bulletin (which includes the Annual Cumulative Bulletin and Bulletins monthly—except during July and August).

It is understood that my handling of any CR material which is marked "The analyses of commodities, products, or merchandise appearing in this issue of the Consumers' Research Bulletin are for the sole information of Consumers' Research subscribers" will be in accordance with that direction.

Name.....
(Please write in longhand)

Street.....

City..... State.....

My profession or business is.....

CR-2-43

for new subscribers

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Street.....

City..... State.....

My profession or business is.....

CR-2-43

A	B	C		
—	2	3	Living Ghost, The	*mys-com AY*
—	1	2	London Blackout Murders	*war-cri-dr A*
—	6	7	Loves of Edgar Allan Poe	*dr AY*
—	4	3	Lucky Jordan	*war-mel A*
—	2	4	Lucky Legs	*mus-cri-com A*
—	—	4	Lure of the Islands	*war-mel A*
—	4	3	Madame Spy	*war-mel A*
1	11	5	Magnificent Ambersons, The	*nov A*
3	12	—	Major and the Minor, The	*com A*
—	3	6	Man in the Trunk, The	*cri-mys A*
—	5	4	Manila Calling	*war-dr A*
—	1	4	Man's World, A	*war-mel A*
—	11	3	Men of Texas	*mel AYC*
—	5	5	Mexican Spitfire's Elephant	*com A*
—	1	3	Miss V from Moscow	*war-mel AY*
2	5	5	Moon and Sixpence, The	*nov A*
—	5	3	Moonlight in Havana	*mus-com A*
—	2	1	Mountain Rhythm	*war-com AYC*
—	3	4	Mrs. Wiggs of the Cabbage Patch	*dr AYC*
—	3	4	Mummy's Tomb, The	*cri-mel A*
—	5	2	My Heart Belongs to Daddy	*com AY*
2	11	—	My Sister Eileen	*com A*
—	11	1	Navy Comes Through, The	*war-mel AY*
—	3	2	'Neath Brooklyn Bridge	*mel AY*
—	6	1	Night for Crime, A	*mys A*
—	3	4	Night Monster	*mys-mel A*
—	1	2	Night Plane from Chungking	*war-mel AY*
—	2	2	Night to Remember, A	*mys AYC*
—	9	4	Nightmare	*war-mys-mel A*
1	5	1	Northwest Rangers	*mel AYC*
—	4	3	Not a Ladies Man	*dr A*
3	9	2	Now, Voyager	*dr A*
—	4	1	Old Homestead, The	*mus-cri-com AYC*
—	5	2	Omaha Trail, The	*wes AYC*
—	5	8	Once upon a Honeymoon	*war-dr A*
1	8	1	One of Our Aircraft Is Missing	*war-mel AY*
—	7	5	Orchestra Wives	*mus-com A*
—	2	2	Outlaws of Pine Ridge	*wes AYC*
—	2	2	Over My Dead Body	*mys-com A*
—	4	1	Overland to Deadwood	*wes AYC*
—	12	3	Palm Beach Story, The	*com A*
—	10	4	Panama Hattie	*war-mus-com A*
—	8	6	Pardon My Sarong	*com A*
—	4	—	Payoff, The	*cri-mel A*
1	5	—	Phantom Killer	*mys A*
4	13	—	Pied Piper, The	*war-mel AYC*
—	2	9	Pierre of the Plains	*dr AYC*
—	5	3	Pittsburgh	*mel A*
—	1	3	Police Bullets	*cri-mel A*
—	4	—	Powers Girl, The	*mus-com A*
10	7	—	Pride of the Yankees, The	*biog AYC*
—	7	5	Priorities on Parade	*mus-com AYC*
—	1	4	Prison Girls (Previously released as Gallant Lady)	*mel A*
—	2	1	Queen of Broadway	*mel A*
—	3	3	Quiet Please, Murder	*war-cri-mel A*
—	2	1	Raiders of San Joaquin	*mus-wes AYC*
9	5	—	Random Harvest	*nov A*
3	11	3	Reap the Wild Wind	*mel AYC*
—	3	—	Red River Robin Hood	*mus-wes AYC*
—	5	3	Reunion (in France)	*war-mel A*
—	4	—	Rhythm Parade	*mus-com A*
—	1	4	Riders of the West	*wes AY*
4	9	1	Road to Morocco	*mus-com AY*
—	2	5	Sabotage Squad	*war-mel AYC*
3	1	1	Saludos Amigos	*car AYC*
—	3	4	Scattergood Survives a Murder	*cri-com AYC*
—	4	4	Secret Enemies	*war-mel A*
1	5	—	Secrets of a Co-ed	*mus-mel A*
—	8	4	Seven Days Leave	*war-mus-com AY*
—	3	3	Seven Miles from Alcatraz	*war-mel A*
3	6	3	Seven Sweethearts	*mus-com AYC*
—	2	3	Sherlock Holmes and the Secret Weapon	*war-mel AY*
—	7	—	Sherlock Holmes and the Voice of Terror	*war-mys-dr AY*
—	3	4	She's in the Army Now	*war-com A*
—	2	2	Silver Bullet, The	*wes AYC*
1	5	3	Silver Queen	*mel A*
—	4	4	Sin Town	*mel A*
—	6	—	Smart Alecks	*cri-com A*
—	4	1	Smith of Minnesota	*biog AYC*
—	3	1	Sombrero Kid, The	*wes A*
—	11	4	Somewhere I'll Find You	*war-mel A*
—	2	3	Sons of the Pioneers	*wes AYC*
—	4	3	Spirit of Stanford	*com AYC*
—	9	5	Springtime in the Rockies	*mus-com AYC*
—	1	2	Stand By, All Networks	*war-mel AYC*
2	5	1	Stand By for Action	*war-dr A*
1	6	2	Star Spangled Rhythm	*war-mus-com A*
3	5	2	Street of Chance	*mys-nov AY*
—	5	4	Strictly in the Groove	*mus-com AYC*
—	5	2	Submarine Raider	*war-dr AYC*
—	4	—	Sunset Serenade	*mus-wes AYC*
—	3	3	Sweetheart of the Fleet	*mus-com AY*
1	10	4	Tales of Manhattan	*dr A*
1	14	—	Talk of the Town, The	*com A*
—	6	—	Tennessee Johnson	*hist-dr AYC*
—	4	—	Texas to Bataan	*mus-wes AYC*
—	1	3	Texas Trouble Shooters	*wes AYC*
—	3	6	That Other Woman	*mus-com AY*
—	8	4	They All Kissed the Bride	*com A*
—	2	3	They Raid by Night	*war-dr AYC*
—	5	5	Through Different Eyes	*cri-mys A*
—	8	4	Thunder Birds	*war-mel AYC*
—	4	—	Timber	*war-mel AYC*
—	2	3	Time to Kill	*mys-mel A*
—	5	9	Tish	*com A*
1	8	—	Tombstone	*wes AYC*
—	2	5	Tomorrow We Live	*cri-mel A*
—	3	3	Top Sergeant	*war-mel AYC*
—	1	3	Tower of Terror	*war-mel A*
—	3	3	Traitor Within, The	*mel A*
—	4	4	Undercover Man	*wes AY*
—	1	5	Underground Agent	*war-mel AYC*
—	4	2	Undying Monster, The	*mys-mel A*
1	11	1	Unfinished Business	*com AY*
—	6	3	United We Stand	*doc AYC*
—	10	4	Valley of the Sun	*wes AYC*
—	3	1	Vengeance of the West	*wes A*
5	8	2	Wake Island	*war-dr AYC*
—	9	6	War Against Mrs. Hadley, The	*war-dr AYC*
—	5	1	War Dogs	*mel AYC*
—	5	1	We Are the Marines	*doc AYC*
—	2	1	West of the Law	*wes AYC*
—	5	1	West of Tombstone	*mus-wes AYC*
—	4	1	Westward Ho	*wes AYC*
—	6	7	What's Cookin'	*mus-com AYC*
—	5	—	When Johnny Comes Marching Home	*war-mus-com AYC*
—	4	7	Whispering Ghosts	*com AYC*
—	8	2	Whistling in Dixie	*cri-mys AYC*
—	12	7	White Cargo	*dr A*
—	6	6	Who Done It?	*mys-com AYC*
—	9	4	Wife Takes a Flier, The	*war-com A*
—	2	5	Wildcat	*mel A*
2	9	2	Wings and the Woman	*biog-war-dr A*
—	7	3	Wings for the Eagle	*war-dr AYC*
—	9	1	World at War	*war-doc A*
—	3	3	Wrecking Crew	*mel AY*
—	2	3	X Marks the Spot	*cri-mel A*
—	8	4	Yank at Eton, A	*com AYC*
—	1	4	Yank in Libya, A	*war-mel A*
13	4	—	Yankee Doodle Dandy	*mus-biog AYC*
—	2	3	Yanks Are Coming, The	*war-mus-com AYC*
—	6	2	Yokel Boy	*mus-com A*
—	5	3	You Can't Escape Forever	*cri-mel AY*
1	10	1	You Were Never Lovelier	*mus-com AYC*
3	4	—	Young Mr. Pitt, The	*biog AY*
—	5	1	Youth on Parade	*mus-com AY*
—	1	4	Yukon Patrol, The	*war-mel AYC*

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